

at approximately 5 p.m. two business days before this meeting, for a recorded announcement of bank and bank holding company applications scheduled for the meeting.

Dated: June 25, 1992.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 92-15345 Filed 6-25-92; 1:36 pm]

BILLING CODE 6210-01-M

Corrections

Federal Register

Vol. 57, No. 125

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This section of the FEDERAL REGISTER contains editorial corrections of previously published Presidential, Rule, Proposed Rule, and Notice documents. These corrections are prepared by the Office of the Federal Register. Agency prepared corrections are issued as signed documents and appear in the appropriate document categories elsewhere in the issue.

DEPARTMENT OF COMMERCE

Bureau of Export Administration

Action Affecting Export Privileges; Decision and Order

Correction

In notice document 92-4325 beginning on page 6583 in the issue of Wednesday, February 26, 1992, on page 6583, in the second column, in the first paragraph, "February 22, 1992" should read "February 22, 1991".

BILLING CODE 1505-01-D

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 646

[Docket No. 911063-2008]

RIN 0648-AD57

Snapper-Grouper Fishery of the South Atlantic

Correction

In rule document 92-5145 beginning on page 7886 in the issue of Thursday, March 5, 1992, make the following correction:

§ 646.7 [Corrected]

On page 7891, in the first column, in § 646.7(kk), in the first line, "the" should be deleted and in the second line, after "to" insert "a".

BILLING CODE 1505-01-D

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 663

[Docket No. 910792-2030]

RIN 0648-AE10

Pacific Coast Groundfish Fishery

Correction

In rule document 92-8186 beginning on page 12212 in the issue of Thursday, April 9, 1992, make the following correction:

§ 663.22 [Corrected]

1. On page 12213, in the third column, in § 663.22(b)(2), in the fourth line from the top of the page, "16 to 20" should read "16 of 20".

BILLING CODE 1505-01-D

DEPARTMENT OF DEFENSE

Department of the Army

35 CFR Part 251

Regulations of the Secretary of the Army (Panama Canal Employment System); Employment and Personnel Policy

Correction

In rule document 91-19070 beginning on page 40554 in the issue of Thursday, August 15, 1991, make the following correction:

1. On page 40556, in the second column, in amendatory instruction 5 to § 251.32, in the second line, "paragraph (6)" should read "paragraph (b)".

BILLING CODE 1505-01-D

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[MT-070-02-4212-13; M80295]

Realty Action: Exchange of Public and Private Lands in Beaverhead County, MT

Correction

In notice document 92-9492 appearing on page 14845 in the issue of Thursday, April 23, 1992, make the following corrections:

On page 14845, in the 2d column, in the 14th line, "T 9 S, 4 11 W" should read "T 9 S, R 11 W" and in the 19th line, in Sec. 15, remove the comma after "SE¼".

BILLING CODE 1505-01-D

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[ID-060-02-3130-10; ID-28747]

Cascade Resource Management Plan, ID; Amendment

Correction

In notice document 92-9305 beginning on page 14735 in the issue of Wednesday, April 22, 1992, make the following correction:

On page 14735, in the third column, in the land description, under T. 10 N., R. 3 E., in Sec. 34, "NE¼" should read "NW¼".

BILLING CODE 1505-01-D

DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Part 1

[FI-46-89]

RIN 1545-AN71

Treatment of Acquisition of Certain Financial Institutions; Certain Tax Consequences of Federal Financial Assistance to Financial Institutions

Correction

In proposed rule document 92-8637 beginning on page 14804 in the issue of Thursday, April 23, 1992, make the following corrections:

1. On page 14805, in the 3d column, in the 11th line, "control" should read "Control".

2. On the same page, in the same column, in the 2d full paragraph, in the 12th line "Institution's" was misspelled.

3. On page 14806, in the second column, in the third line, "or" should read "of".

4. On the same page, in the same column, in the 5th full paragraph, in the 15th line, after "objective" insert "would".

5. On the same page, in the third column, in the first full paragraph, in the seventh line, "FAA" should read "FFA".

6. On the same page, in the same column, in the second full paragraph, in the sixth line, "of" should read "or".

7. On the same page, in the same column, in the fourth full paragraph, in the last line, "FAA" should read "FFA".

8. On page 14807, in the 2d column, in the 3d full paragraph, in the 10th line, "acquisition" should read "acquisitions".

9. On page 14808, in the 1st column, in the 16th line, "1.502-6" should read "1.1502-6".

10. On the same page, in the 2d column, in the 13th line, "regulation" was misspelled.

11. On the same page, in the same column, in the second full paragraph, in the 5th line "would" should read "wound".

12. On the same page, in the same column, in the same paragraph, in the sixth line, insert a period after "liquidation * * *".

13. On the same page, in the same column, in the third full paragraph, in the fifth line from the bottom of the page, "Sec." should read "See".

§ 1.597-1 [Corrected]

14. On page 14809, § 1.597-1 is corrected as follows:

a. In the second column, in the definition *Agency Control*, in the fifth line, "Institution's" was misspelled.

b. In the same column, in the definition *Bridge Bank*, in paragraph (1), in the eighth line, "1441a(b)(11)" should read "1441a(b)(11)".

c. In the 3d column, in the definition *Federal Financial Assistance*, in the 13th line, remove the section symbol; in the 18th line, after "stock" insert a comma; in the 20th line, "provision" was misspelled; in the 26th line, "payments" was misspelled; and in the 27th line "any" should read "an".

d. In the same column, in the definition *Net Worth Assistance*, in the fourth line, after "has" insert "a".

§ 1.597-2 [Corrected]

15. Section 1.597-2 is corrected as follows:

a. On page 14810, in the first column, the section heading should read "Taxation of Federal Financial Assistance".

b. On the same page, in the same column, in paragraph (a)(2)(ii), in the third and sixth lines, "FAA" should read "FFA".

c. On the same page, in the second column, in paragraph (c)(3)(ii)(A), in the second line, "deductions" was misspelled.

d. On the same page, in the same column, in paragraph (c)(4)(i), in the second line, "Institution" was misspelled.

e. On the same page, in the 3d column, in paragraph (c)(4)(iii), in the 3d line, "Continuing" was misspelled and in the 20th line, "account" should read "amount".

f. On page 14811, in the first column, in paragraph (c)(6)(i), in the fourth line, "the" should read "an".

g. On the same page, in the second column, in paragraph (e), Example 1, in paragraph (i), in the sixth line, after "1993" insert a comma and in paragraph (ii), in the last line "FAA" should read "FFA".

§ 1.597-4 [Corrected]

16. Section 1.597-4 is corrected as follows:

a. On page 14812, in the first column, the section heading should read "Bridge Banks and Agency Control".

b. On the same page, in the second column, in paragraph (d)(1), in the fifth line "the" should read "to".

c. On the same page, in the same column, in paragraph (d)(2), in the 10th line, the second "to" should read "the".

d. On the same page, in the same column, the paragraph designated "(3)" should read "(e)".

e. On the same page, in the third column, in paragraph (f)(2), in the seventh line, "Control" was misspelled.

f. On page 14813, in the 3d column, in paragraph (g)(7)(i), in the 16th line, "retaining" should read "retains".

g. On the same page, in the same column, in paragraph (g)(7)(ii), in the ninth line, "too" should read "to".

h. On page 14814, in the first column, in paragraph (h), Example 2, paragraph (ii), in the fourth line, "million" should read "4 million".

§ 1.597-5 [Corrected]

17. Section 1.597-5 is corrected as follows:

a. On page 14814, in the second column, in paragraph (a), in the first line, "Overview-transfer" should read "Overview--(1) In general".

b. On the same page, in the same column, in paragraph (b), in the fifth line, after "Institution" insert "(the" and in the sixth line, after "Entity)" insert "is treated".

c. On the same page, in the third column, in the undesignated paragraph

following paragraph (b)(1)(iii), in the seventh line, "FAA" should read "FFA".

d. On the same page, in the same column, in paragraph (b)(2), in the first line, "or" should read "of"; in the third line, after "section" insert a comma; and in the seventh line, after "Subsidiaries" insert "are".

e. On the same page, in the same column, in paragraph (b)(3), in the third line, "New" was misspelled.

f. On the same page, in the same column, in paragraph (c)(1), in the first and tenth lines, "FAA" should read "FFA".

g. On page 14815, in the first column, in paragraph (d)(1), in the sixth line, "IT(c)(1)" should read "1T(c)(1)".

h. On the same page, in the second column, in paragraph (d)(2)(iv)(A), in the seventh line, after "date" remove "of".

i. On the same page, in the third column, in paragraph (d)(2)(iv)(B), in the fourth line, the second "by" should read "but".

j. On the same page, in the same column, in paragraph (e)(3), in the 12th line, "Subsidiary" was misspelled.

k. On page 14816, in the first column, in paragraph (e)(5), in the third line, "Transfer" was misspelled.

l. On the same page, in the same column, in Example 1, paragraph (ii), in the fifth and ninth lines "New" should read "Net".

m. On the same page, in the 2d column, in Example 2, in paragraph (i), in the 3d line, "caused" was misspelled; in paragraph (ii), in the 6th line, "The" was misspelled and in the last line

"loans" was misspelled; and in paragraph (iii), in the 14th line, "The" was misspelled.

n. On the same page, in the third column, in Example 3, in paragraph (i), in the fourth line "Consolidated" was misspelled and in paragraph (iv), in the ninth line, "Transfer" was misspelled.

§ 1.597-6 [Corrected]

18. On page 14817, in the 1st column, in § 1.597-6(a), in the 14th line "Commissioner" was misspelled.

§ 1.597-7 [Corrected]

19. On page 14817, in the second column, in § 1.597-7(b)(2)(i), in the second line, the date should read "April 22, 1992".

20. On page 14818, in the first column, in § 1.597-7(c)(3), in the tenth line from the end of the paragraph, "§ 1.597-1" should read "§ 1.597-1".

federal register

**Monday
June 29, 1992**

Part II

**Department of
Housing and Urban
Development**

Office of Assistant Secretary

**NOFA for Lead-Based Paint (LBP) Risk
Assessments; Notice**

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Assistant Secretary for Public and Indian Housing

[Docket No. N-92-3449; FR-3283-N-01]

NOFA for Lead-Based Paint (LBP) Risk Assessments

AGENCY: Office of the Assistant Secretary for Public and Indian Housing, HUD.

ACTION: Notice of funding availability for FY 1992.

SUMMARY: This NOFA informs Public Housing Agencies and Indian Housing Authorities (referred to jointly as "HAs") that have pre-1980 family developments in their inventories of the availability of \$23,853,455 in funding for lead-based paint (LBP) risk assessments. The NOFA contains information on the following:

- (a) The purpose of the NOFA; available amounts and eligibility; and the risk assessment protocol to be used by HAs in conducting a LBP risk assessment and developing recommendations regarding in-place management;
- (b) Application processing, including how to apply and how selections will be made; and
- (c) A schedule of steps involved in the application process.

DATES: An application may be submitted immediately after publication of this NOFA, and must be submitted by 3 p.m. local time (i.e., the time in the HUD Field Office where the application is submitted) on July 30, 1992 (see Appendix 1 for the Hours of Operation of HUD Regional and Field Offices). Applications will be funded on a first-come, first-served basis. In cases where additional time is allowed under this NOFA to correct technical deficiencies in an application, the initial date and time of receipt will determine first-come, first-served eligibility. Every effort should be made to submit applications as soon as possible after the publication of this NOFA; furthermore, the above-stated deadline is firm as to date and hour. In the interest of fairness to all applicants, the Department will treat as ineligible for consideration any application that is received after the deadline. Applicants should take this practice into account and make early submission of their applications to avoid any risk of loss of eligibility brought about by unanticipated delays or other delivery-related problems.

ADDRESSES: Application forms may be requested from HUD Field Offices listed

in Appendix 1 of this NOFA. Completed applications are to be submitted to the Field Office that has jurisdiction over the HA submitting the request for funding.

FOR FURTHER INFORMATION CONTACT: Janice D. Rattley, Director, Office of Construction, Rehabilitation and Maintenance, Department of Housing and Urban Development, 451 Seventh Street, SW., room 4138, Washington, DC 20410, telephone (202) 708-1800. Indian Housing Authorities may contact: Dom Nessi, Director, Office of Indian Housing, Department of Housing and Urban Development, 451 Seventh Street, SW., room 4140, Washington, DC 20410, telephone (202) 708-1015, or (202) 708-0850 (voice/TDD). (These are not toll-free telephone numbers.)

SUPPLEMENTARY INFORMATION:

Paperwork Reduction Act Statement

The information collection requirements contained in this NOFA have been approved by the Office of Management and Budget (OMB), under section 3504(h) of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501-3520), and assigned OMB control numbers 0348-0043, 2577-0044, and 0348-0046.

I. Purpose and Substantive Description

A. Allocation Amounts

(1) *Total amount available.* The Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 1992 (Pub. L. 102-139, approved October 28, 1991; at 105 Stat. 744) (Appropriations Act) set aside \$25,000,000, of the \$2,800,975,000 of budget authority available for modernization of existing public housing projects, for the risk assessment of lead-based paint (LBP). However, amounts actually available from the appropriated amount have been reduced because conversions from Section 8 (U.S. Housing Act of 1937)-funded section 202 (Housing Act of 1959) direct loan projects to rental assistance-funded section 202 grant projects have not occurred at the rate anticipated by Congress in the Appropriations Act. Reductions were made in the FY 1991 carryover balances to fund FY 1992 programs, as provided in the Appropriations Act. Therefore, the amount of funds available for LBP risk assessment in FY 1992 is \$23,853,455. In this NOFA the Department is establishing a maximum of \$250,000 for an initial award to any single HA, but also establishes a mechanism for possible additional funding (see Section I.D.(3) of this NOFA).

(2) *Per-unit cost.* The Department has determined that the maximum amount that can be awarded to a HA under this NOFA will be based on the amount requested in the HA's application and the availability of funding. An HA shall base its funding request on a per-unit-to-be-tested (or sampled)-per-development cost. The Department has estimated a cost of \$495 per-tested (or sampled)-unit as a guide that may be used for developing HA funding requests. This per-unit cost guide includes costs for collection of dust and soil samples, laboratory analysis of collected dust and soil samples, interpretation of laboratory results on samples collected, review of maintenance and management practices, and recommendations for in-place management (including interim containment recommendations). Where the estimated cost-per-unit-to-be-tested (or sampled) exceeds the guidance amount of \$495, HUD may examine the cost reasonableness of the request.

The method to be used to determine the number of units to be tested (or sampled) is set forth below and in the risk assessment protocol attached to this NOFA and included in the application kit:

Number of units in development	Number of units for inspecting and testing (collecting samples)
1-4	ALL
5-74	5
75-124	6
125-174	7
175-224	10
225-299	12
300-399	15
400-499	18
500+	20 per 500 units, plus 1 for each additional increment of 50 units

As stated in Section III.A, Application Content, of this NOFA, an application must specify the number of units to be tested (or sampled), the amount requested for each development, and the total amount the HA is requesting.

(3) *Assignment of funds to Regional Offices.* Funds will be assigned to the HUD Regional Offices based on the estimated testing (or sample) size of pre-1980 family units within each Region. The Department has determined that there are approximately 109,000 units to be tested (or sampled) using the protocol. The following chart reflects the estimated percentage of these units within each Region; these percentages will be used to assign available funds to the Regions:

Region	Estimated sample size: pre-1980 family units	% of national sample of pre-1980 units
I	3,677	3
II	16,603	15
III	18,307	17
IV	19,213	18
V	20,247	19
VI	12,774	12
VII	1,857	2
VIII	4,077	4
IX	8,075	7
X	3,712	3
Totals	108,542	100

As many eligible applications as possible will be funded within the Regional allocation of funds. A Region may conduct more than one round of funding, as provided in Section I.D(3) of this NOFA, with its original allocation of the total funds. If after fully funding all eligible applications within its jurisdiction, a Regional Office has funds remaining from its original allocation, the Regional Office will notify Headquarters of the amounts remaining. Headquarters will redistribute funds from Regions that do not have enough fundable applications, to other Regions that have insufficient funds for fundable applications. Funds will be redistributed according to the proportions for the original distribution (see above distribution chart), excluding those Regions that do not need additional funds. This process will be repeated until all fundable applications have been fully funded, within the total amount available.

(4) *Subassignment of funds to non-Indian and Indian Field Offices.* Regional Offices shall subassign funds to each non-Indian and Indian Field Office based on funding decisions made pursuant to this NOFA.

(5) *Remaining funds.* In the event that the funds awarded under this NOFA total less than the amount available, the remaining amount will be carried over to FY 1993, because the Appropriations Act targets these funds for the assessment of risks associated with lead-based paint. If funds are carried over to FY 1993, a subsequent NOFA for these remaining set-aside funds will be published.

B. Eligibility and Requirements

(1) All HAs with pre-1980 family developments are eligible (i.e., both large HAs funded under the Comprehensive Grant Program (CGP) and small HAs funded under the Comprehensive Improvement Assistance Program (CIAP)). HAs, especially smaller ones, are encouraged to form a consortium for purposes of

having risk assessments conducted. Such a consortium would enable a number of HAs to obtain coordinated services for those risk assessments.

(2) In accordance with section 14(a)(3) of the U.S. Housing Act of 1937 (1937 Act) (added by the Appropriations Act, 105 Stat. 759), all pre-1980 family developments within a HA's inventory may be the subject of a LBP risk assessment, whether or not the units have been previously tested or abated. As stated in section 14(a)(3), risk assessments are intended to assess the risks of lead-based paint poisoning in all projects constructed before 1980 that are, or will be, occupied by families. Risk assessments are not mandatory; however, HAs are strongly encouraged to conduct them. In undertaking a risk assessment, a HA shall use a risk assessment protocol that, at a minimum, follows the protocol attached to this NOFA. While the scope of the risk assessment may exceed the contents of the protocol provided, funding shall be requested based on the protocol attached to this NOFA. The goal of the protocol is to enable a HA to identify lead hazards so that appropriate interim measures can be implemented until testing and abatement can be fully undertaken.

Section 14(a)(3) of the 1937 Act requires that professional risk assessments include dust and soil sampling and laboratory analysis. The risk assessment protocol attached to this NOFA has been developed by the Department to ensure compliance with this provision and with certain requirements of the Lead-Based Paint Poisoning Prevention Act. In no instance shall conducting a risk assessment satisfy the HA's obligation under the Lead-Based Paint Poisoning Prevention Act to test for and abate lead-based paint hazards.

Upon completion of the risk assessment, the HA must provide a copy of the results of the risk assessment to the appropriate Field Office. The risk assessment must be completed within

eighteen (18) months of the fund reservation notification to the HA.

(3) CIAP implementation requirements, as set forth in 24 CFR part 968, subpart B, and the CIAP Handbook, 7485.1 REV-4, are applicable to HAs funded under this NOFA. These requirements encompass fund requisitions, implementation schedules, quarterly progress reports, budget revisions, etc.

(4) In accepting funding to perform a risk assessment, HAs must agree to participate, if requested by HUD, in a subsequent evaluation of the risk assessment protocol attached to this NOFA as Appendix 2. This evaluation will entail a review of collected sampling data and the effectiveness of recommended in-place management procedures.

c. Ineligible Costs and Activities

(1) Risk assessment costs from prior years will not be eligible for funding or reimbursement under this NOFA. The Appropriations Act amended section 14(a) of the 1937 Act (see 105 Stat. 759) by adding clause (5), which states that risk assessment costs incurred or disbursed in FY 1991 from other accounts will be paid or reimbursed from modernization funds in FY 1992. Therefore, while not eligible costs under this NOFA, HAs may seek reimbursement of these FY 1991 costs through CIAP or CGP funds. (Risk assessments are an eligible item for funding under CIAP and CGP. An HA that needs additional funds for activities funded under this NOFA may reprogram CIAP funds or use its CGP allocation.)

(2) Actual implementation of recommendations that result from the risk assessment conducted is not eligible for funding under this NOFA. The implementation of resulting recommendations (e.g., comprehensive or random testing, abatement of lead, in-place management measures (including interim containment), and work order modifications) may be funded from

other HA sources (i.e., CIAP, CGP, operating subsidy, or operating reserves).

D. Selection of Applications for Funding

(1) In order to be considered for funding, an application must be complete and must meet the threshold criterion that the proposed risk assessment be for pre-1980 family developments. Eligible applications will be fully funded, up to a maximum of \$250,000 in the first round of funding, on a first-come, first-served basis, as long as funds remain available. To the extent that funds remain available after the first round, HAs requesting additional funding above the \$250,000 limit may be considered for additional funds in a second or subsequent round (up to \$100,000 in each additional round), as explained below in Section I.D(3) of this NOFA. All awards in a second or subsequent round will also be made on a first-come, first-served basis.

(2) Field Offices will ensure that all applications (including copies) are date- and time-stamped immediately upon receipt, and will forward a stamped copy of each application, in chronological order, to the appropriate Regional Office Director of Public Housing as soon as the application is considered eligible for funding. The Field Office will be responsible for identifying, notifying applicants of, and receiving corrections of any technical deficiencies in the application, as discussed in Part IV of this NOFA.

(3) Each Regional Office will sort applications received from the Field Offices in its jurisdiction in chronological order according to the date and time stamp placed on the application by the Field Office (and taking into consideration any time differences). (For those Indian Offices that are collocated within a Regional Office, the Regional Administrator will designate which program office (Public or Indian) will review and sort applications from the Field Office.) From the amounts assigned to each Region, the Regional Administrator shall make final funding decisions for each round of funding on a first-come, first-served basis. As many applications as possible will be funded within the Regional allocation or any redistribution of funds. Funding will take place in rounds until either all funds have been awarded or there are no more fundable applications.

In the first round of funding, each HA will be limited to a maximum award of \$250,000 (one percent of the \$25 million that was appropriated for risk assessments), although the HA is permitted to request a higher level of funding. Setting a maximum amount that

can be funded in the first round will ensure an optimum number of HAs that can be accommodated within the available funding. A HA that has applied for more than the \$250,000 limit (e.g., a HA with a large multifamily or scattered site unit inventory that requires more than the maximum of \$250,000 to conduct the risk assessment) may receive additional funds in excess of the \$250,000 maximum in any second or subsequent round of funding, if funds remain after all eligible applications have been identified and funded in previous rounds or additional funds become available because of a redistribution of funds to the Region in accordance with Section I.A(3) of this NOFA.

In a second or subsequent round, each eligible HA may be awarded up to an additional \$100,000 per round, until all of the funds are awarded or all eligible applications are funded. Awards in a second or subsequent round will also be made on a first-come, first-served basis, using the original application (date and time stamped).

Each Region will advise Headquarters, by the date specified in the Processing Schedule in Section III.B of this NOFA, as to whether there are sufficient eligible applications within its jurisdiction to require all of the funds assigned to that Region. In cases where all assigned funds cannot be used within a Regional Office's jurisdiction, Headquarters will reassign the funds to other Regions that have identified a need for additional funds, as described in Section I.A(3) of this NOFA.

E. Notification of Awards

Once all rounds of funding are complete, each Regional Office will notify its Field Offices of the amounts awarded to each funded HA within a Field Office's jurisdiction. The Field Office will notify the HA of HUD's funding decision after congressional notification is completed. Reservation documents will be prepared by the Field Office.

II. Application Process

A. General Requirements

Applications are available from HUD Field Offices listed in Appendix 1 of this NOFA. To be considered for funding, an original and 2 copies of the application must be submitted to the HUD Field Office that has jurisdiction over the applicant HA. An application may be submitted immediately upon publication of this NOFA, and must be submitted before 3 p.m., local time, on July 30, 1992, to the HUD Field Office that has jurisdiction over the applicant HA. The

contents of the application are listed below, in Section III.A of this NOFA.

The above-stated deadline is firm as to date and hour. In the interest of fairness to all applicants, the Department will treat as ineligible for consideration any application that is received after the deadline. Applicants should take this practice into account and make early submission of their materials to avoid any risk of loss of eligibility brought about by unanticipated delays or other delivery-related problems.

B. Threshold Requirement

An HA must propose to conduct risk assessments for pre-1980 family developments to be considered eligible for funding.

III. Checklist of Application Submission Requirements

A. Application Content

The following documents comprise the application:

(1) OMB Standard Form 424, Application for Federal Assistance. HAs shall complete items 2, 5, 12, 13, 14, 15, 17 and 18;

(2) Form HUD-52825, Comprehensive Assessment/Program Budget, Part I—Summary. The total amount requested for funding will be identified on this form under either account 1410.1, Administration (where HA staff will be used and the HA certifies that it has the capability of and will be conducting the professional risk assessment), or account 1430.2, Consultant Fees (where the HA will be contracting for the professional risk assessment).

(3) Form HUD-52825, Comprehensive Assessment/Program Budget, Part II—Supporting Pages. Developments proposed to be the subject of a risk assessment are to be identified on this form. The applicant must provide the name; address; project number; total number of units; number of units to be tested (or sampled), in accordance with the requirements set forth in Section I.A(2) of this NOFA and in the attached protocol; and amount requested for each development (see Section I.A(2) of this NOFA for information on unit-cost guidance).

(4) Certification signed by the HA Executive Director that, at a minimum, the risk assessment protocol to be used will be equivalent to the protocol provided in this NOFA.

(5) Certification signed by the HA Executive Director that the proposed risk assessment will be completed within eighteen (18) months of the date that funds are awarded and that the HA

agrees to participate, if requested by HUD, in a subsequent evaluation of the risk assessment protocol, to assess its validity for the identification of lead paint hazards and effectiveness in addressing those hazards.

(6) Certification signed by the HA Executive Director that a copy of the completed risk assessment will be provided to the appropriate HUD Field Office upon completion of the assessment.

(7) Certification that HA staff is qualified to conduct LBP risk assessments, if applicable.

(8) Form HUD-50070, Certification for Drug-Free Workplace.

(9) Certification for Contracts, Grants, Loans and Cooperative Agreements, required of HAs established under State law that are applying for grants exceeding \$100,000.

(10) SF-LLL, Disclosure of Lobbying Activities, required of HAs established under State law only where any funds, other than federally appropriated funds, will be or have been used to influence Federal workers or Members of Congress or their staffs regarding specific grants or contracts.

(11) Form HUD-2880, Applicant/Recipient Disclosure/Update Report.

B. Processing Schedule

The following schedule will be followed, and is designed to complete the funding process during FY 1992. This schedule assumes that the NOFA will be published by the end of June 1992, allowing at least 30 days for applications to be submitted.

(1) HAs send applications to Field Office—from date of publication of NOFA to 7/30/92.

(2) Field Offices review applications for completeness and advise HAs of any technical deficiencies—by 8/06/92.

(3) Technical deficiencies due—at least by 8/20/92.

(4) Field Offices complete reviews and forward applications, in chronological order to Regional Office—by 8/25/92.

(5) Regional Offices make funding decisions based on available funds and advise Headquarters of unused funds or need for additional funds—by 9/01/92.

(6) Headquarters redistributes unused funds—by 9/15/92.

(7) Regional Offices reserve funds and forward congressional notifications to Headquarters—by 9/22/92.

(8) Congressional notification is completed and HAs are advised of funding decisions—by 9/30/92.

IV. Corrections to Deficient Applications

Immediately after the submission of an application, the appropriate Field Office will screen the application to

determine whether all items were submitted. If items 1, 2, and 3 listed in Part III.A, Application Content, of this NOFA are missing, the application will be considered substantially incomplete and, therefore, ineligible for processing.

If the HA fails to submit any of items 4-10 listed in Part III.A of this NOFA, or the application contains a technical mistake such as an incorrect signatory, the Field Office will immediately notify the HA that it has 14 calendar days from the date of HUD's written notification to submit or correct the specified items. If any of items 4-10 are missing and the HA does not submit them within the 14-day cure period, the application will be ineligible for further processing.

HUD notes that the initial date and time of receipt will be used to determine funding under the first-come, first-served criterion; the determination of technical deficiencies will not impact upon the initial date and time of receipt.

V. Other Matters

A. Environmental Review

A finding of no significant impact with respect to the environment has been made in accordance with HUD regulations at 24 CFR part 50, which implement section 102(2)(C) of the National Environmental Policy Act of 1969. The finding of no significant impact is available for public inspection between 7:30 a.m. and 5:30 p.m. weekdays in the Office of the Rules Docket Clerk, Office of the General Counsel, room 10276, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, DC 20410-0500.

B. Federalism Executive Order

The General Counsel, as the Designated Official under section 6(a) of Executive Order 12612, Federalism, has determined that the policies contained in this notice will not have substantial direct effects on States or their political subdivisions, or the relationship between the federal government and the States, or on the distribution of power and responsibilities among the various levels of government. As a result, the notice is not subject to review under the Order. The NOFA merely sets forth funding availability for HAs to conduct, at their discretion, risk assessments for lead paint hazards.

C. Family Executive Order

The General Counsel, as the Designated Official under Executive Order 12806, *The Family*, has determined that this notice will likely have a beneficial impact on family formation, maintenance, and general

well-being. Families could benefit from this funding action as a result of the identification of immediate and potential lead-based paint hazards; that identification will ultimately lead to a safer environment. Accordingly, since the impact on the family is beneficial, no further review is considered necessary.

D. Section 102 of the HUD Reform Act; Documentation and Public Access Requirements; Applicant/Recipient Disclosures

Disclosures. HUD will make available to the public for five years all applicant disclosure reports (HUD Form 2880) submitted in connection with this NOFA. Update reports (also Form 2880) will be made available along with the applicant disclosure reports, but in no case for a period generally less than three years. All reports—both applicant disclosures and updates—will be made available in accordance with the Freedom of Information Act (5 U.S.C. 552) and HUD's implementing regulations at 24 CFR part 15. (See 24 CFR part 12, subpart C, and the notice published in the *Federal Register* on January 16, 1992 (57 FR 1942), for further information on these disclosure requirements.)

Public notice. HUD will include recipients that receive assistance pursuant to this NOFA in its quarterly *Federal Register* notice of recipients of all HUD assistance awarded on a competitive basis. (See 24 CFR 12.16(b), and the notice published in the *Federal Register* on January 16, 1992 (57 FR 1942), for further information on these requirements.)

E. Section 103 of the HUD Reform Act

HUD's regulation implementing section 103 of the Department of Housing and Urban Development Reform Act of 1989 (42 U.S.C. 3537a) (HUD Reform Act) was published on May 13, 1991 (56 FR 22088) and became effective on June 12, 1991. That regulation, codified as 24 CFR part 4, applies to the funding competition announced today. The requirements of the rule continue to apply until the announcement of the selection of successful applicants.

HUD employees involved in the review of applications and in the making of funding decisions are restrained by part 4 from providing advance information to any person (other than an authorized employee of HUD) concerning funding decisions, or from otherwise giving any applicant an unfair competitive advantage. Persons who apply for assistance in this competition should confine their inquiries to the

subject areas permitted under 24 CFR part 4.

Applicants who have questions should contact the HUD Office of Ethics (202) 708-3815 (voice/TDD). (This is not a toll-free number.) The Office of Ethics can provide information of a general nature to HUD employees, as well. However, a HUD employee who has specific program questions, such as whether particular subject matter can be discussed with persons outside the Department, should contact his or her Regional or Field Office Counsel, or Headquarters counsel for the program to which the question pertains.

F. Section 112 of the Reform Act

Section 13 of the Department of Housing and Urban Development Act (42 U.S.C. 3537b), added by section 112 of the Reform Act, contains two provisions dealing with efforts to influence HUD's decisions with respect to financial assistance. The first imposes disclosure requirements on those who are typically involved in these efforts—those who pay others to influence the award of assistance or the taking of a management action by the Department and those who are paid to provide the influence. The second restricts the payment of fees to those who are paid to influence the award of HUD assistance, if the fees are tied to the number of housing units received or are based on the amount of assistance received, or if they are contingent upon the receipt of assistance.

Section 13 was implemented by final rule published in the *Federal Register* on May 17, 1991 (56 FR 22912). If readers are involved in any efforts to influence the Department in these ways, they are urged to read the final rule, particularly the examples contained in Appendix A of the rule.

Any questions about the rule should be directed to the Office of Ethics, room 2158, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, DC 20410-3000. Telephone: (202) 708-3815 (voice/TDD). (This is not a toll-free number.) Forms necessary for compliance with the rule may be obtained from the local HUD office.

G. Prohibition Against Lobbying Activities

The use of funds awarded under this NOFA is subject to the disclosure requirements and prohibitions of section 319 of the Department of Interior and Related Agencies Appropriations Act for Fiscal Year 1990 (31 U.S.C. 1352) (the "Byrd Amendment") and the implementing regulations at 24 CFR part 87. These authorities prohibit recipients of federal contracts, grants, or loans

from using appropriated funds for lobbying the Executive or Legislative branches of the Federal government in connection with a specific contract, grant, or loan. The prohibition also covers the awarding of contracts, grants, cooperative agreements, or loans unless the recipient has made an acceptable certification regarding lobbying. Under 24 CFR part 87, applicants, recipients, and subrecipients of assistance exceeding \$100,000 must certify that no federal funds have been or will be spent on lobbying activities in connection with the assistance. The Department has determined that an IHA established by an Indian Tribe as a result of the exercise of its sovereign power is not subject to the Byrd Amendment, but an IHA established under State law is subject to those requirements and prohibitions.

Authority: 42 U.S.C. 14371; Pub. L. 102-139.
Dated: June 22, 1992.

Arthur S. Newburg,

Director, Office of Lead-Based Paint Abatement and Poisoning Prevention.

Joseph P. Schiff,

Assistant Secretary for Public and Indian Housing.

APPENDIX 1.—HOURS OF OPERATION FOR HUD REGIONAL AND FIELD OFFICES

Name of office	Hours of operation
Region I	
Boston:	
Regional Office.....	8:30 a.m. to 5:00 p.m.
Hartford Office.....	8:00 a.m. to 4:30 p.m.
Manchester Office.....	8:00 a.m. to 4:30 p.m.
Providence Office.....	8:00 a.m. to 4:30 p.m.
Region II	
New York:	
Regional Office.....	8:30 a.m. to 5:00 p.m.
Albany Office.....	7:30 a.m. to 4:00 p.m.
Buffalo Office.....	8:00 a.m. to 4:30 p.m.
Newark Office.....	8:30 a.m. to 5:00 p.m.
Region III	
Philadelphia:	
Regional Office.....	8:00 a.m. to 4:30 p.m.
Baltimore Office.....	8:00 a.m. to 4:30 p.m.
Charleston Office.....	8:00 a.m. to 4:30 p.m.
Pittsburgh Office.....	8:00 a.m. to 4:30 p.m.
Richmond Office.....	8:00 a.m. to 4:30 p.m.
Washington, D.C. Office.....	8:00 a.m. to 4:30 p.m.
Region IV	
Atlanta:	
Regional Office.....	8:00 a.m. to 4:30 p.m.
Birmingham Office.....	7:45 a.m. to 4:30 p.m.
Caribbean Office.....	8:00 a.m. to 4:30 p.m.
Columbia Office.....	8:00 a.m. to 4:45 p.m.
Greensboro Office.....	8:00 a.m. to 4:30 p.m.
Jackson Office.....	8:00 a.m. to 4:30 p.m.
Jacksonville Office.....	7:45 a.m. to 4:30 p.m.
Knoxville Office.....	7:45 a.m. to 4:30 p.m.
Louisville Office.....	8:00 a.m. to 4:30 p.m.
Nashville Office.....	7:45 a.m. to 4:15 p.m.
Region V	
Chicago:	
Regional Office.....	8:15 a.m. to 4:45 p.m.
Cincinnati Office.....	8:00 a.m. to 4:45 p.m.

APPENDIX 1.—HOURS OF OPERATION FOR HUD REGIONAL AND FIELD OFFICES—Continued

Name of office	Hours of operation
Cleveland Office.....	8:00 a.m. to 4:45 p.m.
Columbus Office.....	8:30 a.m. to 4:45 p.m.
Detroit Office.....	8:00 a.m. to 4:30 p.m.
Grand Rapids Office.....	8:00 a.m. to 4:30 p.m.
Indianapolis Office.....	8:00 a.m. to 4:45 p.m.
Milwaukee Office.....	8:00 a.m. to 4:30 p.m.
Minneapolis-St. Paul Office.....	8:00 a.m. to 4:30 p.m.
Chicago Indian Office.....	8:15 a.m. to 4:45 p.m.
Region VI	
Fort Worth:	
Regional Office.....	8:00 a.m. to 4:30 p.m.
Albuquerque Office.....	7:45 a.m. to 4:30 p.m.
Houston Office.....	7:45 a.m. to 4:30 p.m.
Little Rock Office.....	8:00 a.m. to 4:30 p.m.
New Orleans Office.....	8:00 a.m. to 4:30 p.m.
Oklahoma City Office.....	8:00 a.m. to 4:30 p.m.
Oklahoma City Indian Office.....	8:00 a.m. to 4:30 p.m.
San Antonio Office.....	8:00 a.m. to 4:30 p.m.
Region VII	
Kansas City:	
Regional Office.....	8:00 a.m. to 4:30 p.m.
Des Moines Office.....	8:00 a.m. to 4:30 p.m.
Omaha Office.....	8:00 a.m. to 4:30 p.m.
St. Louis Office.....	8:00 a.m. to 4:30 p.m.
Region VIII	
Denver:	
Regional Office.....	8:00 a.m. to 4:30 p.m.
Denver Indian Office.....	8:00 a.m. to 4:30 p.m.
Region IX	
San Francisco:	
Regional Office.....	8:15 a.m. to 4:45 p.m.
Honolulu Office.....	7:45 a.m. to 4:15 p.m.
Los Angeles Office.....	8:00 a.m. to 4:30 p.m.
Phoenix Office.....	8:00 a.m. to 4:30 p.m.
Phoenix Indian Office.....	8:15 a.m. to 4:45 p.m.
Sacramento Office.....	8:00 a.m. to 4:30 p.m.
Region X	
Seattle:	
Regional Office.....	8:00 a.m. to 4:30 p.m.
Seattle Indian Office.....	8:00 a.m. to 4:30 p.m.
Anchorage Office.....	8:00 a.m. to 4:30 p.m.
Anchorage Indian Office.....	8:00 a.m. to 4:30 p.m.
Portland Office.....	8:00 a.m. to 4:30 p.m.

LEAD-BASED PAINT RISK ASSESSMENT PROTOCOL

(This document has been reproduced from the Risk Assessment Protocol that is included in the Application Kit.)

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Glossary

Introduction

Purpose

This document sets forth the steps to be taken when conducting a lead-based paint risk assessment to determine whether lead-based paint hazards exist, and if so, provide solutions on reducing and managing such hazards (In-Place Management of Lead-based Paint Hazards in Public and Indian Housing) until complete abatement takes place. It

also provides guidance on managing lead-based paint hazards as these hazards relate to housing authority maintenance and management practices.

Legislative Background

The Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 1992 (the Appropriations Act), provides for a set-aside of \$25 million for Public Housing Agencies (PHAs) and Indian Housing Authorities (IHAs), hereafter referred to as housing authorities (HAs), "to assess the risks of lead-based paint poisoning through the use of professional sampling and laboratory analysis in all projects constructed before 1980 that are, or will be occupied by families." Section 14 (a)(5) of the United States Housing Act of 1937, as amended by the Appropriations Act, provides that "effective interim measures to reduce and contain the risks of lead-based paint poisoning recommended in such professional risk assessments" are eligible modernization costs. While HAs are not required to conduct a lead-based paint risk assessment, the Department strongly encourages that they do so. When a housing authority receives funding under the set-aside, at a minimum, the attached risk assessment protocol shall be used.

Objective

The Lead-Based Paint Poisoning Prevention Act, as amended, requires that all pre-1978 family developments be randomly sampled for the presence of lead by December 6, 1994. (The 1980 date cited above applies to the conduct of lead-based paint risk assessments only.) Positive test results are used to develop abatement plans in conjunction with the rehabilitation and modernization of housing developments. While abatement is underway in many housing authority developments, it is clear that complete abatement of all lead paint surfaces in housing developments will take a period of time. Unless housing authorities adopt short-term measures, many children and workers may become poisoned unnecessarily.

The lead-based paint risk assessment process is a critical supplement to the comprehensive approach of lead-based paint testing, and subsequent abatement, which many housing authorities are now conducting. The "professionally administered" risk assessment is designed to determine whether lead-based paint hazards (contaminated defective paint, interior dust and exterior soil) are present and to

assess whether existing management and maintenance programs are adequate to handle lead-based paint hazards during routine maintenance prior to complete abatement. The basic premise of this process is the review of existing maintenance and management practices and, the collection of dust and soil samples to determine where and how much lead is present in the housing environment. If lead is found, the process will provide information on how to reduce and manage lead-based paint hazards.

Positive results from a lead-based paint risk assessment will lead to an in-place management program for those housing developments where abatement activities are not possible in the near future. HAs are required to implement short-term, immediate response measures (in-place management) to prevent lead poisoning of resident children and maintenance personnel who may disturb lead-based paint surfaces in the course of their normal activities. In-place management activities are not eligible funding activities under the set-aside, however, they are eligible modernization expenses. In-place management includes cleaning and re-painting; education of residents; training and equipping of employees; and, regular monitoring of painted surfaces. Additionally, risk assessments can result in modifications to existing maintenance and management practices.

While the Department is requiring that HAs test soil for lead contamination as a part of risk assessment, a level of hazard for lead in soil has not been set, since that issue is currently being examined by the Environmental Protection Agency (EPA). Accordingly, soil test results will be gathered by the Department and provided to EPA. We will defer to EPA for the establishment of a hazard level determination and for guidance to housing authorities for action where such levels are exceeded. However, where States or local laws have established lead in soil standards and require action, HAs shall abide by the State or local requirements.

Health Perspective

With the publication of the Centers for Disease Control (CDC), Department of Health and Human Resources' revised guidelines entitled *Preventing Lead Poisoning in Young Children*, October 1991, it is anticipated that many more children may be identified as having an elevated blood lead level and, may be classified as being poisoned. CDC states that "childhood lead poisoning is one of the most common

and preventable pediatric health problems today." Efforts need to be increasingly focused on preventing lead poisoning before it occurs. In some neighborhoods, we know that lead poisoning can affect over half of all children. Studies indicate that children with elevated blood lead levels are more likely to have:

- lower intelligence and IQ scores;
- learning and reading disabilities;
- increased high school dropout rates;
- reduced reflexes; and,
- a variety of other adverse health effects.

Lead poisoning incidents among construction and maintenance workers have also been reported with increasing frequency.

The major source of lead poisoning is now known to originate largely from contaminated deteriorated house paint and soil. Most children are poisoned by inadvertent ingestion of dust and soil. Additionally, some children are occasionally poisoned by actually eating paint chips.

Intact lead-based paint that is covered by a number of layers of non-lead paint presents a hazard if it is disturbed or it deteriorates and contributes lead to house dust or soil. Contaminated house dust and soil which exceed established levels determined to be hazardous (note previous discussion of soil) present a

hazard because it is readily available to the child. As long as lead paint is intact and not subject to abrasion, damage or disturbance, it presents no current risk to humans; however, the mere opening and closing of windows may create a hazard. Children are poisoned as a result of being exposed to lead—sometimes by peeling paint chips, but much more commonly by lead dust. Lead dust is invisible, sticky and hard to clean up. It gets on children's hands (and then into their mouths) through normal behavior. It does not take much lead dust to poison a child. Identifying and controlling these hazards are the focus of the risk assessment and in-place management processes.

Conducting risk assessments and implementing effective in-place management are not substitutes for complying with legal requirements to test and abate. However, these measures do provide a way to deal with LBP hazards responsibly and cost effectively, until long-term action can be taken. HAs must evaluate on a case-by-case basis the cost of in-place management versus speeding up complete lead abatement.

Users of the Risk Assessment Protocol

The enclosed document is for use by both HAs and the risk assessment firm that is under contract with a HA to

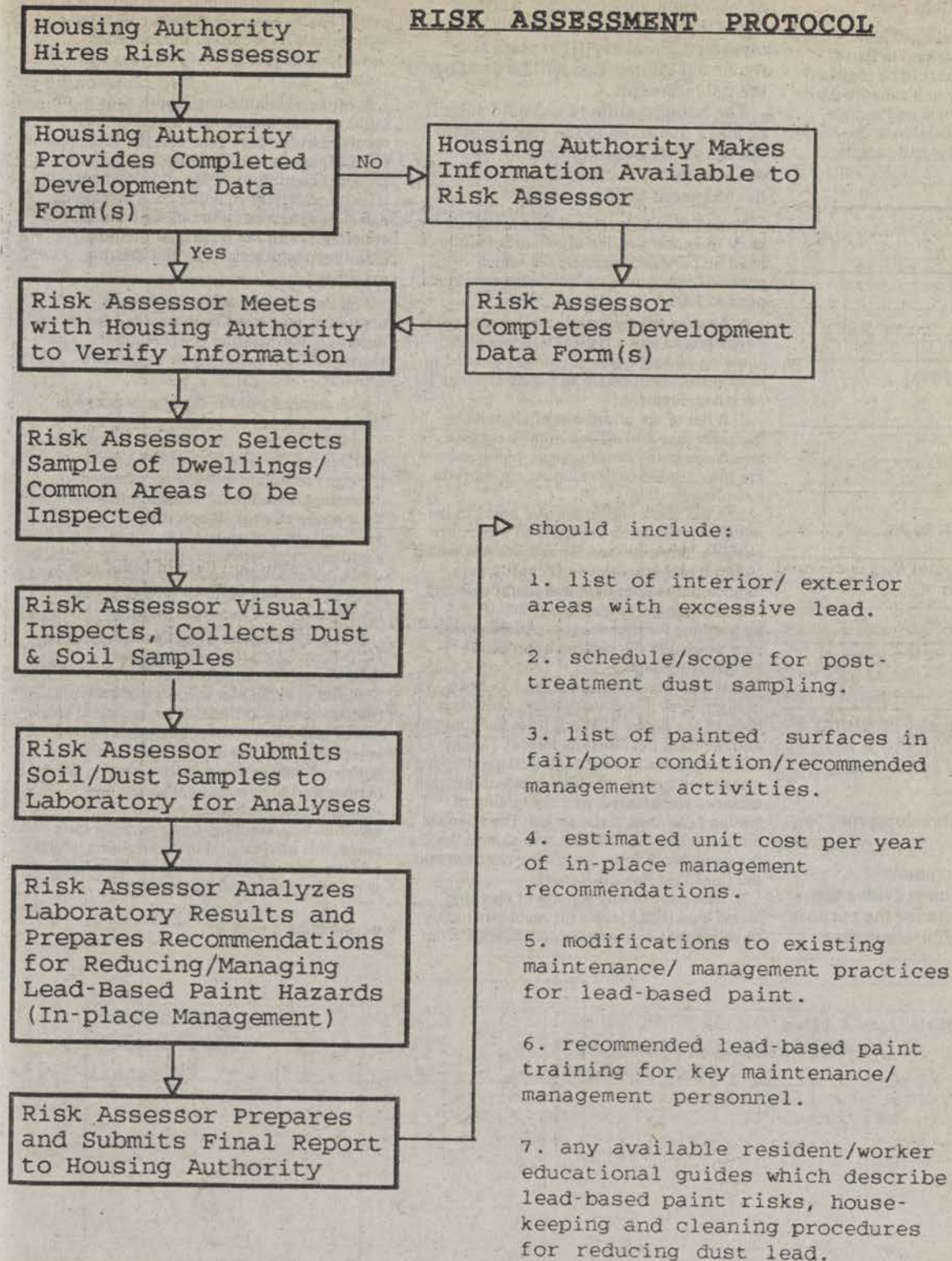
perform this service. The Department believes that a HA's use of this document will be highly beneficial because it will provide insight for formalizing the authority's lead-based paint program and assist in making the best use of available funds.

Soliciting the Services of A Risk Assessor

To solicit the services of a Risk Assessor, housing authorities should develop a Request for Proposal that includes the following information:

1. A copy of the Risk Assessment Protocol.
2. Scope of Services:
 - a. Housing authority size;
 - b. Development(s) to be assessed;
 - c. Name of the Development(s);
 - d. Number of units in the Development(s);
 - e. Location of units which are considered a part of the development;
 - d. Construction date of buildings contained in the development;
3. Proposal submission requirements.
4. Required Contractor Qualifications.
5. Date and Time of Pre-Bid Conference.
6. Factors for Award.

BILLING CODE 4210-33-M

RISK ASSESSMENT PROTOCOL

Part I—Development Data Form

Note: The following document and information requests contained in Part I, Section I and Section II, should be prepared by the Housing Authority and submitted to the Risk Assessor for review and sample development; or made available to the Risk Assessor on site for review and sample development.

Development Name

HUD Project Number
Contact Information

Housing Authority (PHA/IHA)

Telephone Number

Executive Director

Housing Authority Contact for this
Development

Risk Assessment Firm

Date (Document completed by PHA/IHA)

**Part I: To be Prepared by the Housing
Authority**

**Section I: Requested Development
Information**

Introduction: Development background information provides the Risk Assessor with data for the purpose of identifying those units, common

areas, community facilities, and site areas that should be tested and inspected. Brackets ([]) explain how requested information will be used by the risk assessor.

The housing authority should submit or make available to the risk assessor the following information and documents for review for *each* development to be assessed:

Note: When a development consists of more than one site, the above information must be provided for each site which contains family units which were constructed prior to 1980.

1. An 8" x 10" schematic site plan of each development and a typical building plan showing all unit types. [Plans are needed to develop an appropriate sampling strategy for each development.]

2. A list of the addresses of all units by bedroom size and all community service structures in the development. [Addresses are also needed to develop an appropriate sampling strategy.]

3. A list of *all* addresses and areas in the development which are used on a *regular* basis for day care and for activities in which children under age seven (7) participate. Include licenses of day care facilities/units and any reports of lead-based paint inspections for those areas. [Addresses are also needed to develop an appropriate sampling strategy.]

4. If lead-based paint testing has been performed at this development, provide a copy of the Scope of Work from the contract and the final Test Results Report. [These documents are needed to determine if enough units were tested, whether or not all painted surfaces were tested, and the quality of testing.] *Optional Submission:* The housing authority has the option *not* to submit the Scope of Work from the testing contract and the final Test Results Report.

5. One copy of any reports of elevated blood lead (EBL) levels for residents in this development or a written certification from

the housing authority that the appropriate public health agency has been contacted and that there is no record of EBLs at the development. [EBLs are an obvious risk factor.]

6. Make available any health, safety, or building code inspections and citations received in the past year and the most recent HUD Maintenance Audit findings relative to physical conditions of the development. [Health, safety or building code violations assist in determining the likely condition of substrates, and the quality of building maintenance practiced by the housing authority.]

7. If design consultants (architects, engineers, etc.) have been retained for current modernization or substantial maintenance work at the development, provide:

a. A summary of the designer's Scope of Work; or

b. The section of the A/E contract which outlines the designer's Scope of Work. [Design consultant activity is reviewed to determine if lead paint considerations are in their scope of work. If not, then modernization work could result in significant lead dust generation, especially, in those instances where modernization work is done in occupied units, or where cleanup is insufficient prior to reoccupancy.]

8. Provide or make available a copy of HUD Form 52825 (Comprehensive Assessment/Program Budget, Part II, Supporting Pages) for modernization work (renovations, additions, or replacement work which may have created lead dust) completed after the date of the original construction. [Previous modernization work is reviewed to determine whether any substantial disturbances of lead (e.g., sandblasting, sanding, scraping, etc.) took place. It is also helpful in determining which surfaces are *unlikely* to be a problem (e.g., window replacement in 1980.)]

BILLING CODE 4210-33-M

9: DEVELOPMENT PROFILE

BUILDING CHARACTERISTICS

AUTHORITY: _____ DEVELOPMENT NAME: _____
 DEVELOPMENT ADDRESS: _____
 NO. UNITS: _____ NO. BUILDINGS: _____ NO. STORIES IN TALLEST BUILDING: _____
 CONSTRUCTION DATE: _____ MAJOR MODERNIZATION: NO OR YES, IN _____ (YEAR)
 SHORT SUMMARY OF MODERNIZATION WORK: _____

	SINGLE FAMILY DETACH	DUPLEX 1 STORY	DUPLEX TOWN HOUSE	GARDEN TYPE - UNITS =>3	TOWN HOUSE - UNITS =>3	WALKUP FLAT	ELE- VATOR FLAT	OTHER	TOTAL
0 BR									
1 BR									
2 BR									
3 BR									
4 BR									
5 BR									
6 BR									
TOTAL									

EXTERIOR:
(CHECK ALL THAT APPLY)

___ BRICK
 ___ OTHER MASONRY
 ___ WOOD OR
 HARDBOARD
 ___ METAL SIDING
 ___ VINYL SIDING:
 OVER PAINT
 ___ NOT OVER PAINT

___ STUCCO
 ___ SYNTHETIC STUCCO
 (DRIVIT, ETC.)
 ___ OTHER:

INTERIOR WALL/
 CEILING FINISHES:
 (CHECK ALL THAT APPLY)
 ___ GYPSUM WALL BOARD
 ___ PLASTER
 ___ BRICK
 ___ CONCRETE
 ___ WOOD PANELING
 ___ VINYL/FABRIC
 ___ OTHER:

NAME/LOCATION OF PUBLIC SPACES	APPROX SQ. FT.	USE (BE SURE TO NOTE ALL CHILD CARE AND OTHER FACILITIES USED BY CHILDREN UNDER 7

10. Are original drawings and specifications, or records for this development available for review?

yes _____
no _____

If yes, do the records or specifications (as-built drawings, purchasing records, specifications) call for the use of lead-based paint?

yes _____
no _____

[This information enables the risk assessor to focus attention on those areas/surfaces most likely to present a hazard.]

11. Probable LBP Surfaces: In this development, how does the housing authority rate the paint on like surfaces (i.e., interior window wells, door frames, etc.) which were originally painted before 1980 (even if subsequently repainted), and the overall condition of the surfaces to which the paint is applied.

Rate conditions as follows:

A. Good—Intact; less than five years since the last paint job.

B. Fair—Intact but worn, more than five years since last paint job; minor chips from normal wear and tear, but no adhesion or substrate problems.

C. Poor—Non-intact; severely worn or weathered, no longer adhering (peeling, flaking, cracking, etc.), or substrate deteriorating.

[Response to this question will begin the process of making it clear how well maintenance of intact painted surfaces is addressed, and will assist the risk assessor in making recommendations for in-place management.]

Project Data Summary Inventory of Painted Surfaces

BILLING CODE 4210-33-M

INVENTORY OF PAINTED SURFACES

PAINTED PRIOR TO 1980	SURFACE NAME	SUBSTRATE (CHECK ALL THAT APPLY)					CONDITION		
		WOOD	METAL	PLASTER/ GYPSUM	MASONRY/ CONCRETE	OTHER (LIST)	GOOD	FAIR	POOR
	INTERIOR WALLS/ CEILINGS								
	INTERIOR DOORS								
	INTERIOR DOOR FRAMES								
	EXTERIOR DOORS								
	WINDOWS								
	WINDOW FRAME TRIM								
	CABINETS								
	CLOSET/PANTRY SHELVES & BRACKETS								
	STAIRS (TREADS, STRINGERS AND RISERS)								
	OTHER INTERIOR TRIM (BASE, CROWN, CHAIR RAIL, ETC.)								
	OTHER INT. METALS (HANDRAILS, PAINTED HRDWR, MED CABINT.)								
	EXTERIOR WALL SURFACES								
	EXTERIOR TRIM (FACIA, SOFFITT, RAKES ETC.)								
	EXTERIOR METALS (COLUMNS, POSTS, HANDRAILS, ETC.)								
	PAINTED APPLIANCES								
	OTHERS, LIST:								

12. Substantial Maintenance: Provide available documents or briefly describe any substantial (non-routine) maintenance projects conducted at this development. Indicate in the last column if substantial maintenance work was completed for part of the development or for the entire development.

	Year completed	Scope of work	Partial or complete
Example:	1973.....	Scraped and painted all exterior siding and trim..	Partial: 43 out of 123 units.

[Previous substantial maintenance work is

reviewed to determine whether any substantial disturbances of lead (e.g., sandblasting, sanding, scraping, etc.) took place. It is also helpful in determining which surfaces are *unlikely* to be a problem (e.g., window replacement in 1980.)

13. Lead-based Paint Abatement: Has the housing authority conducted any systematic lead-based paint abatement at this development?

yes _____
no _____

If yes, describe briefly or make available documents which outline the Scope of Work.

Was previous systematic LBP abatement completed?

yes _____
no _____

If no, please describe remaining work to be completed?

Did abatement include clearance dust sampling.

yes _____
no _____

[This information will help to focus attention on those surfaces that have not yet been abated.]

14. Overcrowded Units: Does this development have a problem with overcrowded units?

yes _____
no _____

If yes, what percent of the units in the immediate past fiscal year is greater than 8% and less than or equal to 10% of the total number of work orders received during the immediate past fiscal year, excluding cyclical work orders? _____%

List up to 5 units, by bedroom size, which exceed the housing authority's occupancy standards.

Address/unit number

Number of bedrooms
Number of occupants

[Overcrowded units are more likely to have abused or overused painted surfaces, and may also indicate areas where more children are exposed.]

15. Turnover: How many units were vacated in the development in the past 12 months? _____

How many of these units have been reoccupied? _____

[Turnover procedure is examined to determine if lead dust is generated during unit preparation, and whether or not defective paint is repaired prior to occupancy.]

16. Number of Children: Estimate the number of children in the following categories residing in this development.

0-7 _____
8-17 _____

[The more children, the greater the potential risk if lead paint is present.]

17. Please provide the name of a contact person most familiar with the above for supplemental information.

18. If any of the above information or documents are not available, please explain why below:

Part I: To be prepared by the Housing Authority.

Section II: Housing authority-wide maintenance and management.

Introduction: A review of the housing authority's existing management and maintenance practices, including individual development use and occupancy information, will provide an indication of the degree of lead-based paint hazards faced by the housing authority and how well the authority

will be able to respond to in-place management activities.

Note: Questions relating to the Public Housing Management Assessment Program (PHMAP) have been included in this Section. Definitions of the specific component indicators have been provided where applicable. PHMAP questions are not applicable to Indian Housing Authorities.

1. One copy of any reports on elevated blood lead levels for housing authority maintenance staff. [Elevated blood lead levels are an indication of hazards.]

2. A copy of the housing authority's approved Five-Year Funding Request Plan (FRP) (HUD Form 52824) or for Comprehensive Grant Program participants, the Five Year Action Plan, Annual Statement and Performance Evaluation Report (HUD Form 52837) including budgets, schedules, and staffing program. Include all backup information applicable to the developments where LBP risk assessments will be conducted. [The FRP provides information on how abatement needs can be integrated into modernization work and how long in-place management will be necessary.]

3. Provide or make available a list of housing authority budgeted positions (maintenance and management). [Will help determine how in-place management work will be accomplished.]

4. Work Order System: What is the housing authority's grade for Indicator #6 (Work Order System) under the Public Housing Management Assessment Program? [Grades less than "C" indicate the need for improvement. To achieve a grade "C" at least 95% of the housing authority's emergency items were corrected with 24 hours or

emergency status was abated, and the number of non-emergency work orders outstanding at the end of the authorities immediate past fiscal year is greater than 8% and less than or equal to 10% of the total number of work orders received during the immediate past fiscal year, excluding cyclical work orders.] This question is not applicable to Indian Housing Authorities.

Grade _____

Does the current work order system:

a. Allow for the identification of units where lead-based paint is present?

yes _____ no _____

b. Prioritize in any way those units where lead-based paint is a problem?

yes _____ no _____

[Workers should know where potential lead paint hazards exist so that proper precautions can be taken.]

Does the housing authority have an official maintenance manual? If yes, provide a copy.

yes _____ no _____

If yes, does the maintenance manual adequately address lead-based paint to inform maintenance workers of the appropriate protection and cleanup measures to take when dealing with possible lead paint surfaces? Please make available a copy of the applicable sections.

yes _____ no _____

[Standard operating procedures should be in place informing workers on how to protect themselves, residents and the housing environment when dealing with lead-based paint surfaces.]

projects resulted in the abatement of lead-based paint? Please describe.

Is it likely that any of the previous substantial maintenance work resulted in a substantial increase of lead available in the housing environment, e.g., recent scraping of exterior siding. Please describe.

C. Development Use and Occupancy:

1. Overcrowded Units: (Item 14)

What percent of the Development's units are overcrowded?

2. Child Care: (Item 3)

If known, what percent of the units are used on a regular basis for day care of children?

3. Number of Children: (Item 15)

Calculate the average number of children aged 0-7 per unit.

4. Turnover Rate: (Item 6)

For this development calculate the percentage of units vacated in the past 12 months.

_____/unit.

What is the housing authority's explanation of its turnover rate if it is over 20%.

D. Elevated Blood Lead Level Cases:

1. Based on your interviews and discussions, is there a local blood screening program?

Is there a reporting procedure for children identified as having an EBL such that the PHA would be automatically notified when EBL children are identified?

2. Based on interviews and discussions, does an EBL constitute an emergency under the housing authority's tenant Selection and Assignment Plan?

3. If there are or have been EBL cases, summarize how they were managed by the housing authority. Were the residents relocated promptly to a "lead-free unit?" Have the units from which they were relocated been abated and reoccupied?

4. Is the housing authority in compliance with HUD's regulation regarding children with an EBL?

5. Based on interviews, does the housing authority have a lead-based paint tenant education policy for this development, including encouragement to have children screened for lead poisoning, specific information on the location of lead paint hazards, housekeeping and cleaning information regarding reducing lead dust levels.

E. Review of Previous Testing: (The Housing Authority has option of not submitting this information for review)

Please report on the following if this information is provided by the housing authority in the requested submittals.

1. Apartment Interiors: Summarize the Scope of Testing work including the number of units tested, the areas in each unit, the surfaces tested in each area, and the number of readings taken on each surface.

2. Common Areas/Community Facilities: Were common areas tested? Describe the Scope of Testing using the same criteria as the above.

3. Soil: Was soil tested? Describe the protocol and explain why used.

4. Quality Control: Describe the measures taken to ensure the accuracy of XRF testing:

a. Substrate correction:

b. Averaging multiple readings:

c. XRF calibration check:

d. Other:

5. Confirmation by Laboratory Analysis:

Were inconclusive XRF readings confirmed by laboratory analysis?

6. Sample Collection Procedures: How were the laboratory samples collected?

7. HUD Guidelines: Was testing performed in conformance with the recommendations outlined in the HUD Interim LBP Guidelines? If not, specifically describe non-conforming items.

Part II: To be completed by the Risk Assessor.

Section II: Clarification of Housing Authority's maintenance, management and staffing information.

Note: The Risk Assessor should respond to each maintenance, management and staffing question in relationship to how the housing authority's policies address lead-based paint.

A. Maintenance:

1. Based on your interviews and observations:

Is the housing authority maintaining its paint surfaces in good condition?

Are these surfaces maintained in a non-defective condition?

2. Based on your interviews and observations:

Are there extraordinary or chronic maintenance items (e.g., roofs, leaky plumbing) which need attention?

Do any of these items affect the condition of painted surfaces?

3. Work Order System: (Section II, Item 4)

Did your discussion, inspection or review of required submissions indicate that work orders were being completed in a timely and effective manner? [Timely and effective manner means that at least 95% of the housing authority's emergency items were corrected within 24 hours or emergency status was abated, and the number of non-emergency work orders outstanding at the end of the authorities immediate past fiscal year is greater than 8% and less than or equal to 10% of the total number of work orders received during the immediate past fiscal year, excluding cyclical work orders.] This question is not applicable to Indian Housing Authorities.

Is the work order system adequate to address LBP issues, e.g., identifying units with lead-based paint, prioritizing maintenance of those units with lead-based paint?

Repainting Policy: (Section II, Item 5)

Summarize the housing authority's repainting policy.

Discuss how this policy addresses lead-based paint and the overall condition of painted surfaces in the development.

B. Management:

1. Turnover Procedure: (Section II, Item 6)

Summarize the housing authority's unit turnover policy as it relates to the routine preparation of units for reoccupancy.

Approximately, how many units were prepared for reoccupancy in the past 12 months?

2. Modernization: Section I, Item 8; Section II, Item 2)

Evaluate the housing authority's modernization plans for adequacy of LBP abatement for the development. (Part I, Section I, #8; and Section II, #2.)

3. What is the schedule for modernization?

Is the schedule consistent with the presence of lead-based paint hazards (immediate and potential)?

4. At what stage is the housing authority in the implementation of the modernization program for the development?

C. Staffing:

1. Summarize the housing authority's programs for protecting workers from hazardous substances.

2. Based on interviews with housing authority managers and maintenance workers, has the housing authority initiated any worker training programs relative to lead-based paint?

3. Is there any indication that the housing authority's workers are trained in the use of respirators, HEPA vacuums, and clearance procedures?

4. Does it appear that the housing authority is deploying its maintenance staff properly to handle lead-based paint hazards?

Part III: Sampling and Inspection Guidelines

Introduction: The sampling and inspection guidelines are to assist risk assessors in selecting the apartments, common areas, community facilities, and site areas to be inspected and tested for the presence of lead-based paint hazards. With regard to dust, which is one of the most immediately accessible sources of lead exposure, for children as well as adults, the objective is to find places that are most likely to have the highest loadings of dust lead in a given development, not to take a representative sample of all units or common areas. This method of sampling, sometimes called "worst case" sampling, saves money while achieving the goal of determining the likely risk of lead exposure in a development.

Dust lead loadings are expressed in terms of micrograms of lead per square foot. This is a good way of measuring the amount of dust lead that might be accessible to children, but it is, of course, strongly associated with the amount of dust on the surface being sampled as well as the concentration of lead in the dust.

Experience indicates that it is important to take dust samples in the following places, if possible:

- Inside apartment units in which a child with an elevated blood lead level resides.

- Inside units which the housing authority or risk assessor suspects are in poor condition or are randomly selected, and therefore are most likely to contain lead hazards.

Within units and common spaces, dust samples should be taken on floors and windows wells—where the sash rests against the sill—or window sills if the wells are not accessible. In survey after survey, it has been found that window wells have higher dust lead loadings than any other interior dust sampling location, probably because window wells are rarely cleaned and because they can catch exterior as well as interior sources of lead.

In developing the following sampling and inspection guidelines, HUD considered cost as well as the objective of determining risks. The following recommendations provide the minimum number of units or spaces to be inspected and the minimum number of samples to be taken.

Objective: These guidelines are to assist risk assessors in evaluating paint condition and dust/soil lead levels in the apartment units, community facilities, and other areas. These guidelines are minimum requirements. In addition to the required samples and inspections discussed below, samples should be collected in any other areas which the housing authority or risk assessor has reason to believe may represent hazards for residents.

These guidelines indicate that samples should be collected in two (2) types of units. The first is those units in which a child has been identified as having an elevated blood lead level. The second are "worst case" units—those units which the housing authority or risk assessor suspects are most likely to contain lead hazards. Such "worst case" units will usually be units in poor condition and/or those which are randomly selected by the risk assessor. These units should provide a sense of the dust lead levels and condition of a typical unit.

Section I. Inspections and Dust Samples To Be Collected in Apartment Units

A. Required Number of Units to be Inspected and Samples Collected:

1. All units in which an elevated blood lead level (EBL) child has been identified should be inspected (and condition of paint recorded on the attached data collection form), and dust samples should be collected as described below. Such units do not count toward the unit inspection/sampling requirement described in the table below.

2. For scattered site units (units in which the housing authority cannot establish that the buildings/units were constructed at the same time, by the same builder, and have similar paint histories), each unit shall be inspected and samples collected.

3. The number of units to be inspected/sampled (in addition to EBL units) is in proportion to the number of units in the development, as indicated in the following table.

Number of units in development	Number of units to inspect and collect samples
1- 4	all
5- 74	5
75-124	6
125-174	7
175-224	10
225-299	12
300-399	15
400-499	18
500+	20

¹ Per 500 units, plus 2 for each additional increment of 50 units.

B. Unit Selection Criteria:

1. All units with an EBL child *must* be tested.

2. If possible, only housing units designated for families with children (i.e., with three (3) or more bedrooms, or if necessary, two (2) bedrooms) should be sampled. The number of required units to be sampled according to the above table should be divided as follows:

a. **Worst Case Units:** A worst case unit is a unit that the housing authority or risk assessor believes is most likely to have lead hazards assessable to children. These units will be in poor condition. In particular, priority should be given first to those units that have housing code violations and second, to those units in poor condition (i.e., with peeling paint and poor housekeeping). Another source for a worst case unit is one in which renovation was recently conducted or other work that has disturbed paint and created dust. Worst case units should represent 50%-60% of the units required in the sample table.

b. **Randomly Selected Units:** The risk assessor should randomly select 40%-50% of the units required in the sampling table.

C. Required Sample Collection Within Units:

As a rule, the housing authority and residents should receive notice of intent to perform sampling in advance and in compliance with requirements of the lease agreement. This notice should be the shortest time that will allow the housing authority to comply with requirements of the lease on giving notice. The housing authority and residents must be instructed not to perform any special cleanings prior to sample collection and inspection so as

to assume an accurate sample of existing hazards.

1. **Rooms To Be Sampled.** Within each unit, the living room, kitchen, and two (2) children's bedrooms should be sampled and inspected. (One child and one adult bedroom should be sampled and inspected if two children's bedrooms are not possible.)

2. **Number and Location of Samples.** In each selected room, samples should be obtained from one (1) window well (or, if not possible, window sill) and one (1) floor area. The square footage of the window area sampled must be measured and recorded. A one square foot area of floor should be sampled.

a. **Window Wells (or Sills).** In EBL units and units selected as "worst case" units, select those windows that are in poor condition or that are opened and closed most frequently. In units that are randomly selected, randomly select the windows to be tested.

b. **Floors.** In EBL units and units selected as "worst case," sample floors in areas likely to have high concentrations of lead dust, e.g., under peeling paint, under windows, near entryways, corners. In units that were randomly selected, split the samples in the unit between those collected near entryways, corners, and those collected under windows. If the floor cannot be sampled (e.g., because of carpeting), collect an additional window sample. **NOTE:** Carpeting is not an eligible HA purchase item and therefore has not been installed by the PHA.

D. Required Inspection of Units:

In each unit from which samples are taken, inspect all surfaces in all rooms for defective paint conditions and record results on the attached data collection form.

Section II. Common Areas

Inspect and collect dust samples as follows:

A. **Common Hallways and Stairways (1-2 levels):** Collect samples from the following minimum number of common halls/stairs. (All halls/stairs that are connected to an EBL unit shall be inspected and have samples collected. These shall not be counted in the overall sample totals otherwise required.)

1. **Low-Rise and Mid-Rise Buildings (up to 3 levels):** For buildings in low-rise and mid-rise developments, inspect and sample a common hall/stair connected to the unit to be inspected/sampled. Collect two (2) dust wipe samples, one at the entry area and one from the first level landing.

2. **High-Rise Buildings (4 or more levels):** Inspect and collect samples in "high traffic" areas as follows:

a. 4-6 Level Buildings

- Corridors—collect samples from floor areas and window wells (if present):

Levels	Number of floor sample locations	Number of window sample locations
Ground.....	2	1
3 or 4.....	1	1
Top.....	1	1
Total.....	4	3

- Stairwell—collect samples from floors at landing areas and window wells (if present):

Levels	Number of stair/tread landing sample locations	Number of window sample locations
Ground.....	1	1
3 or 4.....	1	1
Top.....	1	1
Total.....	3	3

b. 7-12 LEVEL BUILDINGS:

- Corridors—collect samples from floor areas and window wells (if present):

Levels	Number of floor sample locations	Number of window sample locations
Street.....	2	1
3 or 4.....	1	1
7, 8, 9.....	1	1
Top.....	1	0
Total.....	5	3

- Stairwells—Collect samples from floors at landing area and at window wells (if present):

Levels	Number of stair/tread sample locations	Number of window sample locations
Street.....	1	1
3 or 4.....	1	1
7, 8, 9.....	1	1
Top.....	1	0
Total.....	4	3

¹ Select "worst case" areas where there is visible accumulation of dirt and dust if possible.

c. 13-20 LEVEL BUILDINGS:

- 13-20 levels: Follow the procedure for floors 7, 8, and 9, collect one sample

from corridor floor and one sample from window well (if present). Collect one sample from floors at landing area and one from window well (if present).

- 20+ levels: Repeat procedure above for floors 19-13, one for every ten levels.

B. Location for Inspection of Corridors/Stairwells: Inspect and record on attached data form, the conditions of all painted surfaces at all locations where samples are collected.

- For high-rise buildings, inspect painted surfaces at levels from which samples are collected.

- For low and mid-rise buildings, inspect the entire hall/stair.

Section III. Community Buildings, Day Care, Health Care, Recreational, Other Program Spaces Accessible To Children, and Management Offices

A. For Spaces Up to 2000 Square Feet: Collect samples as follows:

- Floors: Collect two (2) samples from widely separated locations in "high traffic" areas regularly used or accessible to children.

- Window Wells/Sill: Collect two (2) "worst case" samples, preferably from window wells.

B. For Spaces Over 2000 Square Feet:

- Floors: Collect one (1) additional sample for each increment of 2000 square feet.

- Window Sills/Well: Collect one (1) additional sample for each additional increment of 2000 square feet.

- Management Office: Collect one (1) sample from the floor of the resident waiting area; two (2) if area is more than 400 square feet.

D. Inspection Requirements: Inspect and record on the attached data collection form the condition of all painted surfaces in the areas in the community facilities and management offices which are accessible to children. Inspect interior and exterior areas.

Section IV. Soil Sample Collection (See F. Below for Sample Technique)

A. Buildings: Collect one 50 mil. composite sample (8-10 small scoops at 10-20 ft. spacing) at 0-3 feet away from building and one composite sample at 10-20 feet away from building. Collect samples in bare areas near suspect surfaces (older paint). If paint chips are present and could be assessable to children, include them in composite sample.

- Low-Rise Building: Collect soil samples at exterior of each unit sampled/inspected.

- Mid-Rise Building: Collect soil samples at an exterior area near each common hallway sampled/inspected.

- High-Rise Buildings: Collect one (1) composite soil sample at each building

face greater than 30 ft. in length, maximum of six (6) samples per building.

4. Scattered Site Housing Units: Collect soil samples at exterior of each unit sampled/inspected.

B. Play Areas: Collect a composite sample at each play area. Collect at areas most likely to be used by children, e.g.—at bottom of slide, under swings, in sand play area, etc.

C. Parking Lots: Collect a composite sample from the perimeter of the parking lots which have a capacity of 30 cars or more.

D. Main Roadways: If "high traffic" roadways abut or intersect the site, collect a composite sample at edge of roadway.

E. Inspection: Inspect painted surfaces in areas where samples have been collected.

F. Soil Collection Technique—Composite samples should be obtained by using a 50 mil plastic centrifuge tube to scoop up 8-10 separate portions of approximately 5 mil each. Scoops should be taken from bare areas to minimize organic materials in sample. If bare areas do not exist, use the tube or other means to expose soil for each area to be scooped and include miscellaneous organic material in sample. Do not try to remove extraneous material in the field, samples will be screened and sieved in the laboratory. Wet and frozen soil can be included in samples. NOTE: Avoid using tools to collect soil since they may cross-contaminate samples unless completely cleaned between samples.

Section V: Paint Chip Samples

Collect a paint chip sample at any area where paint is in poor condition and readily accessible to children. If there are many such similar areas, collect a few samples from representative areas, e.g., if all window wells are in poor conditions, collect paint chips from 2-3 window wells to verify presence of lead-based paint.

Section VI: Procedures for Collecting Dust Samples

Supplies Needed for Dust Sample Collection

1. Diaper Wipes—

Do not use the thick kind

Wetting agent should not be alcohol-based

2. Tape Measure

3. Pencil (do not use a permanent marker)

4. Disposable Gloves—not sterilized
For example, Fisher Scientific No. 11-394-36B

5. Polyethylene Centrifuge Tubes—not sterilized (50 ml size) for example, Fisher Scientific No. 05-500-20C
6. Stainless steel knife
7. Field Sampling Forms
8. Template (optional)
Guard against sampling contamination
9. Camera & Film (optional)

Dust Wipe Sampling Procedure

1. Identify area to be wiped, but do not measure yet. Avoid walking on or touching the surface.
2. Remove first wipe and throw it away.
3. Put disposable glove on one hand. Use a new glove for each sample.
4. Remove second wipe and insert aseptically into centrifuge tube. Label it with a unique identifier as the first blank.

5. Remove wipe with gloved hand, shake open, and place it flat at one corner of the surface to be wiped.

6. If the surface is a square (e.g. a floor), proceed to wipe with an "S" motion over the entire surface in a north-south direction, pressing firmly with the palm. If the surface is a rectangle (e.g., window well or window sill), wipe in a straight motion. Attempt to remove all visible dust from the surface.

7. Fold the wipe in half with the contaminated side facing inward; repeat the wipe motion in an east-west direction. Attempt to include all visible dust.

8. Fold the wipe again with the contaminated side facing inward, and insert aseptically into a centrifuge tube. If visible dust remains on the surface

from the area wiped, use another wipe and insert it into the same tube.

9. Seal the tube and label it with a unique identifier.

10. Measure the surface area wiped. Record location, condition of surface, area, etc. on the field sampling form.

11. Remove glove; put all contaminated gloves for the sampled area into a container. Do not throw away gloves inside the housing unit.

12. At the conclusion of the sampling period, obtain another blank sample and label with identifier.

13. At the end of the sampling exercise, wash hands and face thoroughly with plenty of soap and water *before getting into car*.

14. Before shipping to laboratory, confirm all sample container identifiers with lab submittal sheets.

BILLING CODE 4210-33-M

SECTION VII—DATA ENTRY FORMS

Unit Inspection/Data Entry Form

Development #: _____ Development Name: _____ Building #: _____ Apartment #: _____
 Street Address: _____ Inspected By: _____ Date: _____

Selection Criteria/Conditions:

EBL Child: ___ Yes or ___ No

Worst Case: ___ or Random Sample: ___

Code Citations: ___ Yes or ___ No

Reoccupied within 12 months: ___ Yes or ___ No

Housekeeping: ___ (G)ood ___ (F)air or ___ (P)oor

Living Room	Surf. Loc. Code	Substrate Code*	(Good, (F)air, (P)oor, (N)one)		Sample Dimensions in inches	Field Sample No.	Lab Sample No.	Notes:
			Substrate Condition	Paint Condition				
Window well #1 (LR)	1				"x"	"		
Window sill # no well #1 (LR)	2				"x"	"		
Floor - Under Window (LR)	3				"x"	"		
Floor - Other (LR) **	4				"x"	"		

Kitchen

Window well #1 (Kitchen)	5				"x"	"		
Window sill # no well #1 (Kitchen)	6				"x"	"		
Floor - Under Window (Kitchen)	7				"x"	"		
Floor - Other (Kitchen) **	8				"x"	"		

Bedrooms (1st priority is bedrooms with children.)

Bedroom #1

Window well #1 (BR 1)	9				"x"	"		
Window sill # no well #1 (BR 1)	10				"x"	"		
Floor - Under Window (BR 1)	11				"x"	"		
Floor - Other (BR 1) **	12				"x"	"		

Bedroom #2

Window well #1 (BR 2)	13				"x"	"		
Window sill # no well #1 (BR 2)	14				"x"	"		
Floor - Under Window (BR 2)	15				"x"	"		
Floor - Other (BR 2) **	16				"x"	"		

Soil Samples—Bare soil preferred. Record soil samples from scattered sites only, as defined in instructions.

Soil <3' from foundation	17							
Soil 10'–20' from foundation	18							
Soil near primary entry	19							
Soil Other (See instructions)	20							

Notes:

*Substrate Codes: 1. Wood 2. Bare Metal 3. Painted Metal 4. Marble/Synthetic Marble/Plastic Laminate 5. Brick or Block Masonry

6. Bare Concrete 7. Painted Concrete 8. Soft Vinyl Tile or Rubber 9. Ceramic or Quarry Tile 10. Terrazzo 11. Carpet

**Take "Floor - Other" sample from corner, main entry or under paint in poor condition. Indicate location in notes.

Community Space Inspection/Data Entry Form

Development #: _____ Development Name: _____ Street Address: _____
 Building Number _____ and/or Name: _____
 Inspected by: _____ Date: _____

Community Space #1	Surf. Loc. Code	Substrate Code*	(G)ood, (F)air, (P)oor, (N)one		Sample Dimensions in inches	Field Sample Number	Lab Sample Number	Notes (record the use of community spaces i.e. Day Care Center, Recreation Room, Well Baby Clinic, etc.)
			Substrate Condition	Paint Condition				
Waiting Area > 400 Sq.Ft. - #1	21				" x "			
Waiting Area > 400 Sq.Ft. - #2	22				" x "			
Comm.Sp. <2000' - Floor #1	23				" x "			
Comm.Sp. <2000' - Floor #2	24				" x "			
Comm.Sp. <2000' - Window #1	25				" x "			
Comm.Sp. <2000' - Window #1	26				" x "			

(Add one sample of each type for each additional 2000 sq.ft.)

Comm.Sp. >2000' - Floor #1	27				" x "			
Comm.Sp. >2000' - Floor #2	28				" x "			
Comm.Sp. >2000' - Window #1	29				" x "			
Comm.Sp. >2000' - Window #2	30				" x "			

Community Space #2

Comm.Sp. <2000' - Floor #1	31				" x "			
Comm.Sp. <2000' - Floor #2	32				" x "			
Comm.Sp. <2000' - Window #1	33				" x "			
Comm.Sp. <2000' - Window #1	34				" x "			

(Add one sample of each type for each additional 2000 sq.ft.)

Comm.Sp. >2000' - Floor #1	35				" x "			
Comm.Sp. >2000' - Floor #2	36				" x "			
Comm.Sp. >2000' - Window #1	37				" x "			
Comm.Sp. >2000' - Window #2	38				" x "			

Community Space #3

Comm.Sp. <2000' - Floor #1	39				" x "			
Comm.Sp. <2000' - Floor #2	40				" x "			
Comm.Sp. <2000' - Window #1	41				" x "			
Comm.Sp. <2000' - Window #1	42				" x "			

(Add one sample of each type for each additional 2000 sq.ft.)

Comm.Sp. >2000' - Floor #1	43				" x "			
Comm.Sp. >2000' - Floor #2	44				" x "			
Comm.Sp. >2000' - Floor #3	45				" x "			
Comm.Sp. >2000' - Floor #4	46				" x "			
Comm.Sp. >2000' - Floor #5	47				" x "			
Comm.Sp. >2000' - Window #1	48				" x "			
Comm.Sp. >2000' - Window #2	49				" x "			
Comm.Sp. >2000' - Window #3	50				" x "			
Comm.Sp. >2000' - Window #4	51				" x "			
Comm.Sp. >2000' - Window #5	52				" x "			

*Substrate Codes: 1. Wood 2. Bare Metal 3. Painted Metal 4. Marble/Synthetic Marble/Plastic Laminate 5. Brick or Block Masonry

6. Bare Concrete 7. Painted Concrete 8. Soft Vinyl Tile or Rubber 9. Ceramic or Quarry Tile 10. Terrazzo 11. Carpet

Corridor and Stairwell Inspection/Data Entry Form

Development #: _____ Development Name: _____ Street Address: _____
 Building Number _____ and/or Name: _____
 Inspected by: _____ Date: _____

Ground Floor (all building types)	Surf. Loc. Code	Substrate Code*	(Good, (Fair, (Poor, (None		Sample Dimensions In Inches	Field Sample Number	Lab Sample Number	Notes
			Substrate Condition	Paint Condition				
Corridor Floor - Ground Level - #1	53				"x "			
Corridor Floor - Ground Level - #2	54				"x "			
Corridor Window - Ground Level	55				"x "			
Stairwell Landing - Ground Level	56				"x "			
Stairwell Window - Ground Level	57				"x "			

Levels 3 - 6

Corridor Floor - (3rd or 4th)	58				"x "			
Corridor Window - (3rd or 4th)	59				"x "			
Stairwell Landing - (3rd or 4th)	60				"x "			
Stairwell Window - (3rd or 4th)	61				"x "			

Levels 7 - 12

Corridor Floor - (7th, 8th or 9th)	62				"x "			
Corridor Window - (7th, 8th, or 9th)	63				"x "			
Stairwell Landing - (7th, 8th, or 9th)	64				"x "			
Stairwell Window - (7th, 8th, or 9th)	65				"x "			

Levels 13 - 20

Corridor Floor - (13th - 19th)	66				"x "			
Corridor Window - (13th - 19th)	67				"x "			
Stairwell Landing - (13th - 19th)	68				"x "			
Stairwell Window - (13th - 19th)	69				"x "			

Levels 21 - 30

Corridor Floor - (21st - 29th)	70				"x "			
Corridor Window - (21st - 29th)	71				"x "			
Stairwell Landing - (21st - 29th)	72				"x "			
Stairwell Window - (21st - 29th)	73				"x "			

Levels 31 - 40

Corridor Floor - (31st - 39th)	74				"x "			
Corridor Window - (31st - 39th)	75				"x "			
Stairwell Landing - (31st - 39th)	76				"x "			
Stairwell Window - (31st - 39th)	77				"x "			

Top Floor (All Buildings with four or more levels)

Corridor Floor - (Top)	78				"x "			
Corridor Window - (Top)	79				"x "			
Stairwell Landing - (Top)	80				"x "			
Stairwell Window - (Top)	81				"x "			

*Substrate Codes: 1. Wood 2. Bare Metal 3. Painted Metal 4. Marble/Synthetic Marble/Plastic Laminate 5. Brick or Block Masonry

6. Bare Concrete 7. Painted Concrete 8. Soft Vinyl Tile or Rubber 9. Ceramic or Quarry Tile 10. Terrazzo 11. Carpet

Soil Sample Data Entry Form

Development #: _____ Development Name: _____
 Street Address: _____ Inspected by: _____ Date: _____

	Surface Location Code	Field Sample Number	Lab Sample Number	Notes
Soil from playgrounds/tot lots				
Soil from play area #1	82			
Soil from play area #2	83			
Soil from play area #3	84			
Soil from play area #4	85			

Soil at curbside of highest traffic roadway accessible to children

Soil at roadway	86			
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Soil samples from Building # _____, Located at (street address) _____

Soil < 3' from foundation-side #1	87			
Soil < 3' from foundation-side #2	88			
Soil < 3' from foundation-side #3	89			
Soil < 3' from foundation-side #4	90			
Soil 10'-20' from foundation-side #1	91			
Soil 10'-20' from foundation-side #2	92			

Soil samples from Building # _____, Located at (street address) _____

Soil < 3' from foundation-side #1	93			
Soil < 3' from foundation-side #2	94			
Soil < 3' from foundation-side #3	95			
Soil < 3' from foundation-side #4	96			
Soil 10'-20' from foundation-side #1	97			
Soil 10'-20' from foundation-side #2	98			

Soil samples from Building # _____, Located at (street address) _____

Soil < 3' from foundation-side #1	99			
Soil < 3' from foundation-side #2	100			
Soil < 3' from foundation-side #3	101			
Soil < 3' from foundation-side #4	102			
Soil 10'-20' from foundation-side #1	103			
Soil 10'-20' from foundation-side #2	104			

Soil samples from Building # _____, Located at (street address) _____

Soil < 3' from foundation-side #1	105			
Soil < 3' from foundation-side #2	106			
Soil < 3' from foundation-side #3	107			
Soil < 3' from foundation-side #4	108			
Soil 10'-20' from foundation-side #1	109			
Soil 10'-20' from foundation-side #2	110			

Use additional forms as needed.

Section VII: Interpretation of Results

The decision of whether to do further testing or whether to clean-up, including the correction of defective paint surfaces in all units depends on both the costs of clean-up activities versus more testing and the pattern of the results. In addition to evaluating whether dust lead levels exceed the clearance standard, one should consider by how much the levels exceed the standard.

Typically, one would expect higher dust lead levels and worse inspection reports from worst case and EBL units. If these units and those that are randomly selected all have dust lead levels below the clearance standards and any deteriorating paint does not contain lead, the housing authority can be reasonably confident that this development is likely not to be posing a lead hazard at this time. If the worst case units or components in these units exceed the clearance standards and the randomly selected units do not, the housing authority should consider further testing to identify those units requiring clean-up. If the randomly selected units exceed the clearance standard and the worst case ones do not, it indicates that the housing authority has not identified true worst case units; further testing should be considered. If all the units or components in units exceed the clearance standards, consideration should be given to the clean-up of all units without further testing.

Part IV: Recommendations to Control Lead-Based Paint Hazards

Part IV: To Be Prepared by the Risk Assessor

Recommendations to Control Lead-Based Paint Hazards

Introduction: Risk assessments are designed to determine whether lead-based paint hazards exist, and if so, provide recommendations for in-place management strategies for reducing and managing such hazards. Risk assessments also provide recommendations for managing lead-based paint hazards as these hazards relate to a housing authority's maintenance and management practices.

Instructions to the risk assessor: Risk assessments should measure and characterize as precisely as possible, the existence of lead-based paint hazards accessible to residents and workers in a particular housing development. The report to the housing authority should include recommendations for action by the housing authority to control such hazards.

When a housing authority has more than one development assessed, risk management recommendations should be broken out into: (a) Those which apply to authority-wide maintenance and management policies and practices and, (b) those which are specific to a particular development. Every assessment should evaluate what the housing authority is doing with regard to resident education and blood lead level screening, comprehensive testing, employee training, modification of maintenance practices to address lead paint hazards and where necessary, provide recommendations in these areas for changes in authority-wide policy and practices. At a particular development, the recommendations should address the adequacy of maintenance as it relates to lead-based paint, the condition of painted surfaces, and most importantly, the presence of unacceptable levels of lead. Where lead levels exceed acceptable limits, the recommendations should call for immediate action in all units and areas where children under seven and pregnant women are exposed.

Recommendations

1. Identify all interior and exterior areas where lead levels exceed standards. Specify in-place management procedures to treat these conditions.
2. Specify scope of work and scheduling for post-treatment dust sampling.
3. List all suspect paint and surfaces in fair or poor condition. What in-place management measures should be implemented? Give an estimated unit cost for proposed in-place management (use additional sheets as necessary).
4. What aspects of existing maintenance systems should be modified to address lead-based paint hazards to workers and residents?
5. What aspects of existing management systems should be modified to address lead-based paint issues?
6. Identify key housing authority management and maintenance personnel who should receive training in lead-based paint in-place management procedures. Include all personnel supervising the management and maintenance of the development.
7. Tenant education and encouraging blood testing: Provide the educational guides which describe known and suspect lead paint risks, housekeeping and cleaning procedures for reducing lead dust levels and health and dietary information?
8. Additional Risk Assessor comments:

Part V: In-Place Management Guide

A. Introduction

"In-place Management" is the term used to refer to a broad range of strategies and methods for controlling exposures and preventing poisonings from lead in paint and other media

pending permanent abatement. In-place management should be an integral part of most housing authorities' overall programs for preventing lead poisoning, complimenting the other measures, described briefly below, aimed at identifying and reducing lead poisoning hazards.

Inspections are conducted on a surface-by-surface basis to determine the condition of paint on the surface. **Abatement** permanently corrects and eliminates lead-based paint hazards. Because of the high number of older dwelling units with lead-based paint, it will take years to complete the abatement process. In many cases, permanent abatement of lead paint hazards will not be done until a dwelling unit undergoes substantial or comprehensive modernization. In the meantime, housing authorities have a responsibility to protect residents and their children, and workers from lead hazards. For those painted surfaces that have not been tested, it should be assumed that the paint contains lead.

Risk Assessments are conducted to identify existing or likely lead exposures that may present poisoning hazards in units not scheduled for modernization or abatement in the near future. **In-place Management** strategies are normally instituted subsequent to (and often in response to) risk assessments and should continue until abatement is completed. The objective of in-place management is to reduce excessive exposures to lead and protect occupants from lead poisoning in units pending abatement.

B. Preventing and Reducing Exposures to Lead

Children get lead poisoning by ingesting lead. Sometimes children are poisoned by chewing on lead painted surfaces or by eating paint chips. But the most common cause of poisoning is the ingestion of dust lead through normal hand-to-mouth activities, such as thumb-sucking or mouthing toys. If a child is living in a dwelling with high levels of lead in dust on surfaces, there is a high likelihood that the child may become lead poisoned. Dust lead is invisible. It settles from the air and sticks to surfaces, where it can be picked up on children's hands and later ingested.

The fundamental objective of all in-place management strategies is to reduce levels of dust lead and lead paint chips to which a child may be exposed. In most cases, the most significant sources of lead dust are:

Deteriorating lead-based paint which is chalking, chipping, peeling, or flaking;

Lead-based paint on surfaces subject to friction or impact, such as window sashes, doors or painted floors;
Exposed soil with high levels of lead contamination.

C. In-place Management's Multiple Roles

It is important to understand that in-place management measures meet different needs in three general situations. First, in-place management measures should be instituted to clean up lead paint and dust lead hazards identified through the course of *risk assessments* (for dwelling units where full lead abatement actions are not possible in the near future). In this scenario, in-place management amounts to corrective measures—specifically designed to clean up excessive exposures of lead paint chips and dust which have been found. In addition to cleaning up chipping and peeling paint and high dust lead levels, in-place management involves taking steps to stabilize the situation to prevent continuing or future lead exposures.

Second, in-place management means preventing acceptable situations from deteriorating to create excessive lead exposures in the future. In this sense, in-place management amounts to preventive maintenance and periodic cleaning. Surfaces known or suspected to be painted with leaded paint should be monitored. If it is suspected that lead dust levels may be increasing, periodic clean-ups should be done to keep dust lead from accumulating to dangerous levels on accessible surfaces such as window sills (stools) and floors.

Third, in-place management requires that precautions be taken to avoid inadvertently disturbing lead-based paint or otherwise creating dust lead hazards in the course of other maintenance, repair or modernization work. Any work disturbing lead-based paint has the potential for generating dust lead. Obviously, the level of risk is a function of the scale of the work and the amount of dust generated, but it does not take much dust lead to poison a child or adult. All maintenance, repair or modernization work encountering paint should be carried out with attention to the potential for creating lead hazards. At a minimum, in-place management will include a rigorous clean up at the conclusion of any repair project which disturbs lead-based paint.

D. Funding Corrective Measures Under the Comprehensive Improvement Assistance Program

Section 14(a)(5) of the United States Housing Act of 1937, as amended by the Appropriations Act, provides that

effective interim measures (in-place management) to reduce and contain the risks of lead-based paint poisoning recommended as a result of a professionally administered risk assessments are eligible modernization costs. In-place management includes cleaning and re-painting; education of residents, training and equipping of employees; regular monitoring of painted surfaces; and modifications to existing maintenance and management practices.

E. In-place Management Principles and Safeguards

1. Sound Maintenance Program and Practices

The success of in-place management strategies for controlling lead-based paint and dust exposures is directly affected by a housing authority's overall maintenance program and management practices. A number of the questions included in the Risk Assessment Protocol are intended to highlight weaknesses in a housing authority's maintenance and management practices—the more "NO" answers, the more serious the problem or potential problems. If the risk assessment suggests problems, housing authorities are encouraged to retain a consultant to evaluate and modify maintenance and work practices. Industrial engineers normally perform this type of consultation. An engineer familiar with public housing operations and funding mechanisms is recommended.

2. Worker Protection and Training

It is essential that all housing authority staff and others directly involved with reducing lead-based paint hazards have instruction provided by qualified trainers to make them aware of the hazards of lead, proper procedures and work practices, and the need for protective equipment and proper hygiene. Great care must be exercised to protect workers from excess lead exposures and to prevent them from taking lead dust home on their clothing or belongings which could then poison their children.

Corrective Actions. Common sense must be used in selecting the worker protection appropriate to the task at hand. Workers conducting in-place management projects to correct hazards found during risk assessments (either chipping and peeling lead-based paint or elevated lead dust levels) should wear the full protective gear recommended for abatement work in the "Interim Guidelines." This includes coveralls (preferably disposable); shoe coverings; hair coverings; gloves; safety goggles;

and a properly fitted, negative-pressure half-face mask respirator with a HEPA filter.

Workers on projects to correct hazards identified through risk assessments (and other projects which could disturb lead-based paint and generate significant dust) must not eat, drink or smoke on the job; hands and face must be washed before breaks and at the end of the workday. Breaks should be taken away from the work areas. Work clothes should not be worn home. Workers should wear protective work clothes instead of street clothes or they should wear protective garments over their street clothes. Work clothes should be disposed of or laundered. If shower facilities are not available on-site or at the housing authority's maintenance shops, workers should shower and wash their hair immediately upon returning to their homes.

Preventive Maintenance and Repairs. Activities related to preventive maintenance, such as normal repainting, and routine cleaning may be carried out with lesser protection, depending on the scale of the project and the potential for exposure. At the same time, it is important that workers understand the need for proper hand washing and personal hygiene when working with painted surfaces that may contain lead.

Workers engaged in other renovation or repair projects which may encounter lead-based paint must be protected from exposures and must take the necessary precautions to control, contain and clean up lead dust. The level of protection and controls should be keyed to the scale of the project and its potential for dust generation. At one extreme, a light switch or a door handle can be replaced without great concern over lead dust generation. At another level, a kitchen renovation or window replacement project may well create tremendous exposures, tantamount to a full-scale abatement project. In any event, surrounding surfaces should be protected to capture any dust or paint chips generated during any work.

It is the responsibility of the housing authority's maintenance supervisor to assure that workers engaged in in-place management corrective actions, preventive maintenance and repair projects are properly protected. Workers engaged in in-place management activities to correct hazards identified in risk assessments should be subject to medical monitoring procedures outlined in the HUD Interim Lead-Based Paint Guidelines. Briefly, this means preplacement medical examinations, periodic medical examinations, and blood lead monitoring.

3. Protection of Residents

Corrective Action. Housing residents should not be permitted in the unit or in the vicinity of the job while corrective actions are being carried out. Residents' belongings should be protected from possible exposure to lead-based dust released during the project. In most cases in which more than a single workday is required to complete the job, it will be cost effective to permit residents to return to their dwellings each night. In these cases, a complete cleanup will be required at the end of each workday before residents are permitted to return to the space or room.

Preventive Maintenance and Repairs. In most cases, it may be possible to conduct preventive maintenance and repair projects while residents remain in their homes. Care should be exercised to keep residents and their children away from the work area and to protect their belongings from possible dust lead contamination.

4. Preparation of Work Area

For any corrective action, maintenance or repair work involving lead-based paint, it is important that steps be taken in advance of the actual work to contain lead dust and make cleanup easier. Detailed instructions are included in the following section dealing with specific hazard situations. As a general rule, plastic sheeting should be put down to prevent lead-based paint chips and dust from contaminating the ground, the dwelling unit, or resident's belongings.

5. Cleanup Procedures

Cleanup is one of the most important components of any in-place management project. Unless great care is taken to cleanup debris, paint chips and dust lead, the dwelling may be more hazardous after treatment than it was before. Dust lead is invisible, sticky and hard to clean up.

Corrective Actions. At the end of each day, dust and debris should be cleaned up and removed so as not to be further tracked around. Debris should be misted with water prior to sweeping and then placed in double 4-mil or 6-mil plastic bags. A HEPA vacuum should be used to pick up remaining dust.

At the end of a corrective action work (or repair work which generates significant amounts of dust lead), cleanup consists of a three-step process:

(a) a HEPA vacuum should be used to remove all surface dust and small debris;

(b) a wet washing should follow using TSP detergent. Care should be taken each time the cleaning mixture is

exchanged to ensure that dirty water is not allowed to contaminate surfaces. The use of a two-bucket system works well: one bucket contains the phosphate/water wash and the second contains clear water for mop/rag washing. And finally,

(c) a final HEPA vacuuming.

Cleaning equipment should be cleaned before use in another dwelling. Rags and mops used for clean-up in projects involving lead-based paint and dust should not be used for other purposes.

Preventive Maintenance and Repair Projects. The intensity of the cleanup should be based on the scale of the maintenance or repair project and the amount of dust lead generated. If a repair project generates extensive dust lead, the full cleanup procedures recommended above for corrective actions should be followed. In other cases, traditional cleanup procedures can be used, with additional emphasis for dust lead. Wet mopping or wet wiping with TSP detergent should be a routine clean up procedure for projects which generate even small amounts of dust lead.

6. Disposal of Debris

It is important for housing authorities to develop a practice of minimizing waste production and preventing waste products from entering the environment. Because of the limited scope and nature of most in-place management activities, the MD 15 accumulation of hazardous waste should be minimal. Unless contaminated components are removed for replacement, waste will typically be limited to paint chips, dust containing lead, contaminated cleaning supplies, disposable cleaning equipment and clothing, plastic films used as protective coverings and/or catchments, and filter products. Certain wastes from an in-place management project, either solid or liquid, may be classified as hazardous. If so, they will have to be treated as such and handled by a licensed transporter or treatment firm. All debris from a project, whether classified as hazardous or not, must be contained and transported in such a way as to prevent the dispersal of lead-bearing dust, chips or contaminated liquid into the environment. Lead debris should never be sent to a solid waste incinerator, a disposal method that disperses lead into the air. Any lead-containing by-products should be considered as hazardous and should be disposed of in strict accordance with State and local requirements for disposal of limited quantities of lead waste.

7. Clearance Testing

Corrective Actions. After the clean-up is completed for all corrective actions, the unit or work area should be tested to assure that hazardous amounts of lead dust are not left behind.

Clearance Standard

Several states have adopted a post-abatement dust standard which has been included in the HUD Interim Guidelines. The abatement clearance standard was based on a health-based study on dust lead and modified slightly based upon experience of what is practical and possible. The standard applied to post in-place management clearance is similar. The in-place management clearance standard allows the following maximum levels of lead in dust:

Floors: 200 $\mu\text{g}/\text{sq. ft.}$, Window Sills (Stools): 500 $\mu\text{g}/\text{sq. ft.}$, Window Wells: 800 $\mu\text{g}/\text{sq. ft.}$

Dust Sampling and Laboratory Measurements

Persons collecting dust samples and laboratories measuring dust lead levels should be thoroughly familiar with the recommended sampling and analysis protocols for dust contained in the HUD Interim Guidelines as they are to be followed for testing in connection with in-place management.

Interpretation of Test Results

Dust readings in excess of 200 micrograms per square foot ($\mu\text{g}/\text{sq. ft.}$) on floors, 500 $\mu\text{g}/\text{sq. ft.}$ on window sills/stools or 800 $\mu\text{g}/\text{sq. ft.}$ on window wells are considered positive readings. In any housing development, if a component has one or more positive readings, the housing authority has the option of either testing all occurrences of the component in question, or implementing in-place management actions for all of the components in question. The exact nature of the actions depends upon factors such as whether or not lead-based paint is known to be present.

Repeating the Final Cleanup

Following any failure to clear the first clearance test, the housing authority should verify that the cleanup procedures followed were in conformance with the prescribed cleanup procedure. A second clearance failure probably suggests that the source of the lead may be severe enough to warrant the full abatement of lead hazards in the dwelling.

Preventive Maintenance and Repair Projects. Clearance testing is typically not indicated for preventive maintenance and repair projects unless

a substantial amounts of lead dust is generated.

8. Follow-on Monitoring

Dwelling units and public spaces covered by in-place management should be reinspected periodically to: (1) verify that previously restored surfaces remain in sound condition; (2) identify the occurrence and extent of additional painted surface failures; and, (3) check for the presence or reoccurrence of excessive dust and assess the quality of housekeeping. This could occur as a part of the annual inspection, or when a dwelling is prepared to be reoccupied.

At a minimum, walk-through visual inspections should be performed on a yearly basis by personnel who are knowledgeable about lead hazards and in-place management activities. Public spaces should also be inspected on a regular basis.

Residents should be encouraged to report cracked, peeling paint as it occurs.

9. Tenant Education. It is the responsibility of the housing authority to provide all tenants with young children an educational guide developed by HUD. This guide makes clear that parents also have an important role to play in protecting their children from lead poisoning. The guide stresses the importance of wet mopping and wet wiping to control lead dust levels. It also emphasizes the importance of washing children's hands and providing a good diet. Tenants should be encouraged to call to the attention of the housing authority any chipping or peeling paint. Finally, the housing authority should encourage tenants to have their children under age six a blood-lead test.

F. Specific In-place Management Corrective Action Strategies

1. Deteriorating Exterior Paint

Deteriorated exterior surfaces with cracked/peeling/flaking/dusting paint may be releasing lead paint chips and dust lead. The resulting dust lead frequently finds its way into dwellings.

Recommended Action

Deteriorated exterior surfaces are to be repaired to obtain a smooth surface which can be repainted. This will require corrective work that will require the removal of loose paint and dust, cleaning the surface, and resealing the surface by painting. The purpose is to restore the integrity of the paint film on the exterior surface and control further deterioration of the paint.

For the removal of loose paint or painted material, "wet scraping" is to be employed. This means that both the

painted surface and the scraping tool are to be kept wet with water during the scraping process to minimize the release of lead dust and the dispersal of lead paint chips.

Because of the possibility of releasing and dispersing hazardous debris and dust during the corrective work, residents should not be permitted in the vicinity of the work during repair activities. Access should be restricted until thorough cleanup activities have been completed following the work. (It may be necessary to fence or cordon-off the immediate work area to prevent unauthorized access, or if possible, identify an alternate building entrance for residents' use during the work.)

Sequence of Steps

a. Planning the Corrective Action: Residents are expected to have access to their residences during the period of exterior corrective work. Work activities that require more than one day for completion should be scheduled so that each day's work (including cleanup) can be accomplished within the housing authority's normal work-day.

b. Area Protection: Protect all area(s) immediately adjacent to and below the work with a 6-mil polyethylene film to protect the ground and shrubbery, and to retain wet debris and dust that will be created during the surface treatment. This covering should extend out horizontally from the base of the wall for a distance that is equal to half the height of the wall surface being treated. (Though reasonably tough, avoid unnecessary traffic over 6-mil film to reduce chance of puncturing. In addition, if the ground surface is rough it may be necessary to double the film to minimize the occurrence of punctures.) Joints or tears in the polyethylene film should be sealed with duct tape. Any tears that occur in coverings during the work should be repaired immediately.

c. Surface Preparation: The building surfaces to be corrected should be moistened with a fine spray of water from a garden sprayer or atomizing bottle. Care should be taken to assure that electricity is shut off to exterior outlets and switches in the immediate vicinity of anticipated work before any moisture is applied to surfaces.

d. Wet Scraping: Loose, peeling/flaking material shall be removed from the surface(s) by wet scraping the surface(s) to obtain a smooth cleanable surface that can be repainted. The scraping tool should have a soft, pliable blade of plastic or rubber that will not damage or gouge the material. The blade should be rigid enough, however, to remove rough, jagged edges of the broken paint surface. The resulting

surface should be free of jagged, rough edges, or snags that would interfere with the paint or coating's ability to bridge any remaining gaps. The rubber blade squeegee that is used for cleaning automobile windshields may be satisfactory. (One style has a fabric covered foam or sponge on the back of the blade for wetting the surface.) Commercially available plastic scraping pads that are for use with liquid or chemical paint strippers may also be effective for wet-scraping and the smoothing of roughened surfaces.

During the course of wet scraping, the debris should be gathered as with a wet/dry vacuum as often as necessary to minimize its being carried away by the wind. At a minimum, this should be done at the end of each work day.

It may be necessary to spray or re-wet fallen debris to prevent its being scattered or blown off the protective covering.

Workers should be cautioned about the hazards of walking on polyethylene film which is extremely slippery when it is wet. Care should be taken to prevent the tracking of debris off the protective covering. Workers should clean or remove shoe coverings before leaving the area of the work.

e. Cleaning Surfaces: Following wet-scraping, the surface(s) should be cleaned with a damp sponge to remove small particles and dust. It may be necessary to "degloss" the surface before resealing. Cleaning with tri-sodium phosphate (TSP) followed by a clean water wash will degloss as well as clean. The surface should be permitted to dry thoroughly in preparation for repainting or resealing.

f. Surface Sealing: The "clean" dry surface(s) are to be sealed with an enamel paint or coating material that results in a smooth, cleanable surface. The paint or coating should be applied in accordance with the manufacturer's instructions.

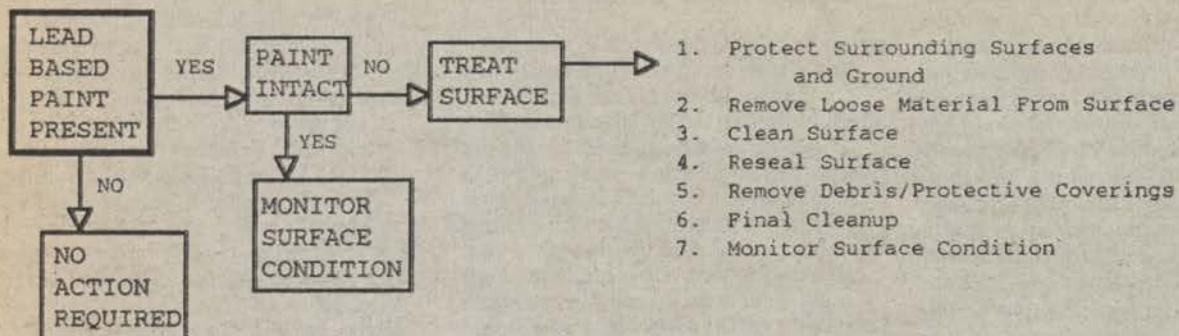
g. Removal of Protective Coverings: At conclusion of the corrective work, (or at the end of the work-day on multi-day activities when the work area cannot be secured from access by residents) the protective polyethylene coverings should be carefully removed, retaining any remaining debris/dust. The coverings and debris should be disposed of in accordance with local disposal practices/regulations. Previously used plastic covering material should not be used again within dwellings. (Cleaning of the equipment, including ladders and scaffolding while on the protective covering may simplify the collection of debris and liquid waste.)

h. Disposal of Waste and Debris: All retained liquid waste should be poured through a filter cloth to remove paint

chips and other debris prior to disposal. Filtered materials should be placed in plastic bags and stored in a secure area

pending disposal in accordance with State and/or local requirements.

BILLING CODE 4210-33-M

BUILDING EXTERIORS

BILLING CODE 4210-33-C

2. Deteriorating Interior Lead-Based Paint

The procedures for treating deteriorating interior paint are similar to those discussed above for exterior paint. However, greater attention must be given to controlling, testing, and cleaning up dust lead as well as protecting residents' belongings.

Sequence of Steps

If the area of deteriorated interior paint to be treated exceeds one square foot, or it is likely that dust will be created during the work, the procedures described below shall be followed:

a. **Planning the Corrective Action:** Because residents are expected to return to their residences for the night, corrective work that requires more than one day for completion should be scheduled so that each day's work, and subsequent cleanup, can be carried out within the housing authority's standard work-day. Each room or space in which corrective action occurs is to be cleaned at the end of the work-day so that residents can return for the night.

b. **Protection of Residents and Personal Belongings:** Residents (and to the extent practicable furnishings/personal belongings) are required to be removed from the room or space in which actual corrective work is being conducted. Furnishings and personal belongings that remain in the room or space are to be protected with duct-tape sealed polyethylene covering. All floors in the work areas must be covered, all ductwork and registers, and all cabinets, drawers, etc., must be sealed. The work area should be sealed from the rest of the residence. Residents' entry to the room/space/ work area is to be prevented until cleanup has been

completed at the conclusion of the work or, at the end of the work-day, which ever occurs sooner.

c. **Area Protection:** Cover all area(s) immediately adjacent to the work with a 6-mil polyethylene film to contain the wet debris and dust that may be dislodged during the corrective work. All joints and edges of the polyethylene covering should be sealed with duct tape.

d. **Surface Preparation:** The surfaces to be corrected should be moistened (but not flushed) with water from a sprayer or atomizing spray bottle. (Care should be taken to assure that electricity to outlets, switches and appliances in the immediate vicinity of the work is turned off before any moisture is introduced to surfaces.)

e. **Wet Scraping:** Loose, peeling/flaking material should be removed from the surface(s) by wet scraping the surface(s) with the objective of obtaining a smooth cleanable surface. The scraping tool should have a soft, pliable blade of plastic or rubber that will not gouge the surface. It should be rigid enough, however, to remove the rough, jagged edges of paint. The rubber blade squeegee that is used for cleaning automobile windshields may be satisfactory. (One style has a fabric covered rubber sponge on the back of the blade for introducing water to the surface.) Commercially available plastic scraping pads for use with liquid or wet chemical paint strippers may also be effective for wet scraping roughened surfaces.

During the wet scraping, the debris should be collected frequently with a wet/dry vacuum to minimize tracking or spreading the removed material throughout the room or space.

f. **Cleaning Surfaces:** The wet-scraped surface(s) should be cleaned with a damp sponge and permitted to dry in preparation for repainting or resealing, which should be done in accordance with the coating/paint manufacturer's instructions. Surface preparation often requires "deglossing" as well as cleaning. In that case, cleaning with TSP followed by a clean water wash will degloss as well as clean.

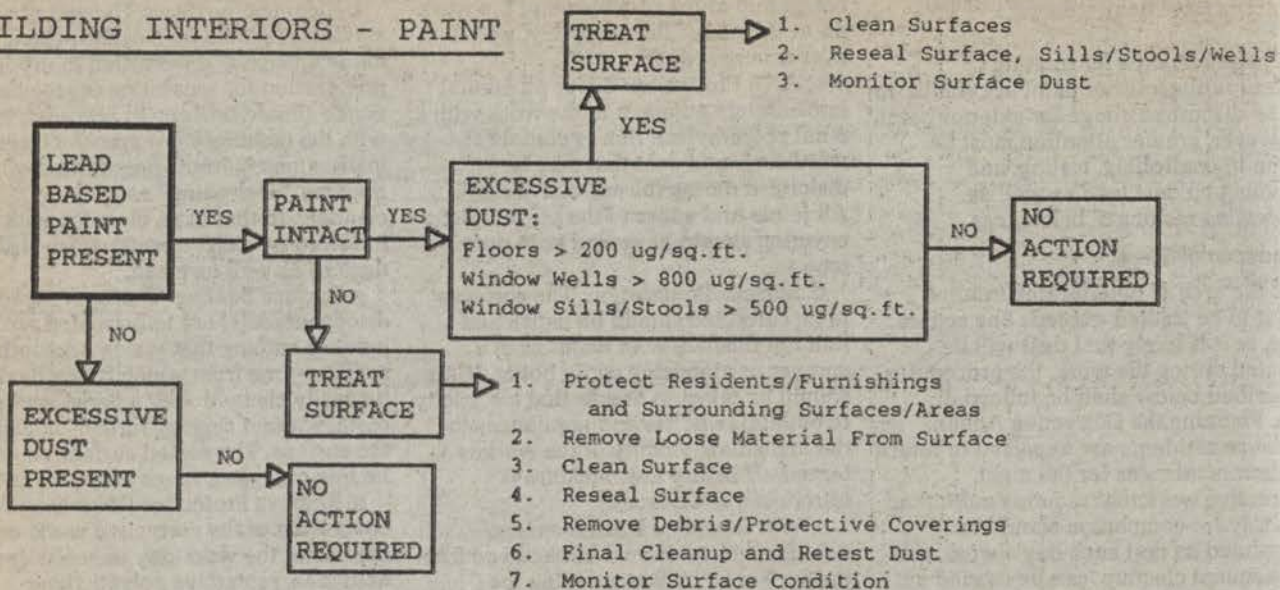
g. **Surface Sealing:** The "wet-scraped," dried surface(s) are to be sealed with a paint or coating that yields a smooth surface—one from which future dust can be easily cleaned with a damp sponge or cloth, without causing further damage to the surface. The sealed surface should be free of jagged, rough edges, or snags.

h. **Remove Protective Coverings:** At conclusion of the corrective work, or at the end of the work-day on multi-day activities, protective polyethylene coverings should be carefully removed, containing any debris/dust, bagged in plastic, and stored in a secure place outside the dwelling for eventual disposal in accordance with local disposal practices/regulations. Polyethylene coverings should not be reused in dwelling units.

i. **Cleanup:** A final clean-up of the corrected surfaces and surrounding work area, room or space is to be conducted at the end of each work day with a HEPA vacuum, a high phosphate wash, followed by a final HEPA vacuuming. See separate discussion in this guide under "Clean-up Procedures".

j. **Dust Testing:** Dust testing is to be done in accordance with the protocols listed in the HUD Interim Guidelines and summarized in this guide under "Clearance Testing".

BILLING CODE 4210-33-M

BUILDING INTERIORS - PAINT

BILLING CODE 4210-33-C

3. Excessive Lead Dust in Units Without Deteriorating Paint

Ingesting and inhaling dust lead is the most common way that children are exposed to lead. Dust lead is created as lead-based paint "chalks" or ages; it is created at friction points through opening and closing of windows with frames painted with lead-based paint. Soil in urban areas is often tainted with lead from years of use of leaded gasoline and from industrial processes such as smelting. Much of the dust lead

in a dwelling is tracked in on shoes or blows in through open windows. It is estimated that 85% of the dust in a dwelling is tracked in from outdoors.

If dust lead levels above the prescribed clearance levels persist within the dwelling, the housing authority should implement measures such as:

a. On a regular basis, wash down exterior walkways, stairs and landings where dust lead may accumulate.

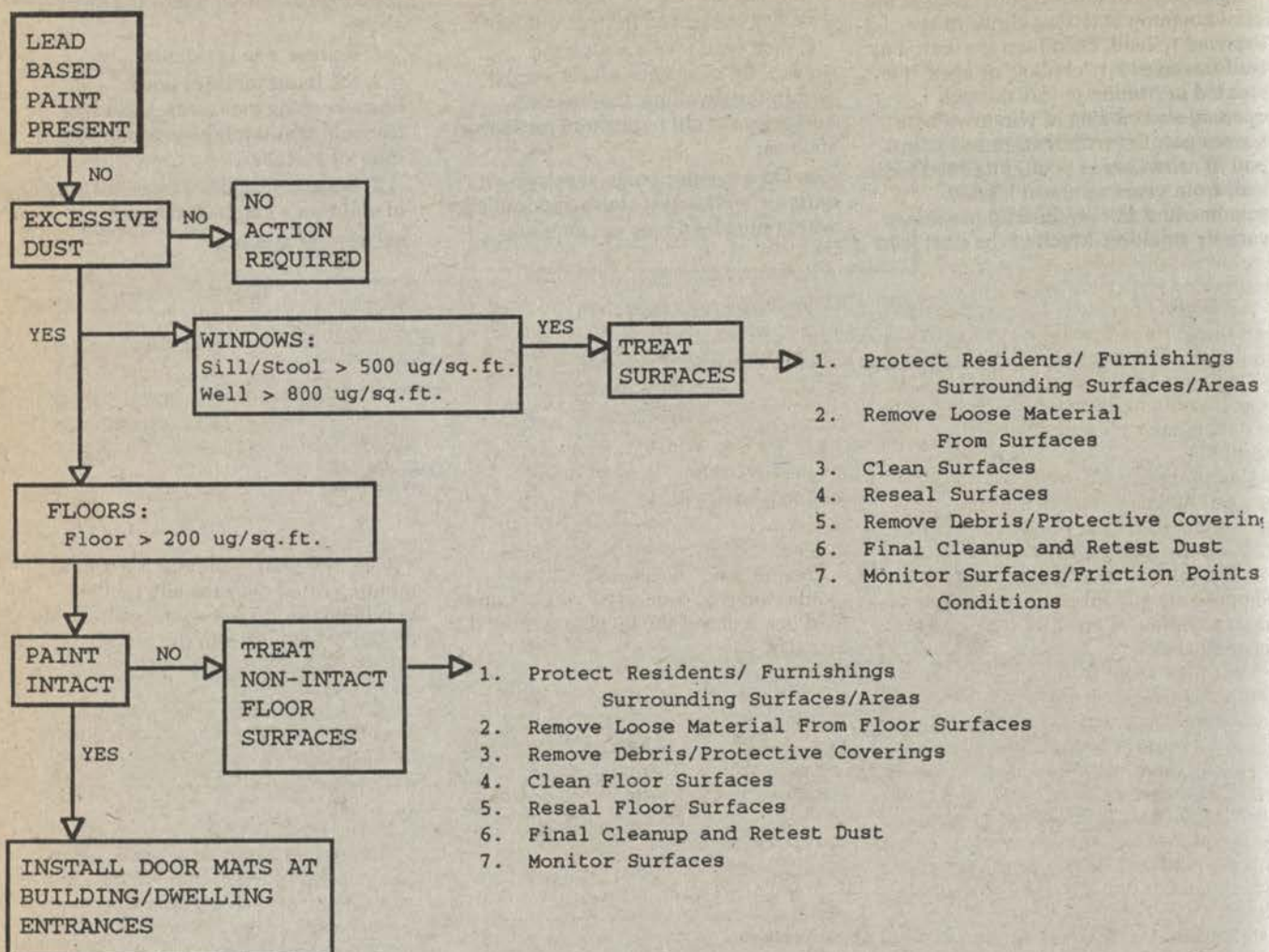
b. Locate door mats at building and dwelling entrances to reduce the tracking of dust lead into the unit on shoes.

c. Reiterate to residents:

1. the importance of good housekeeping measures, including frequent wet-wiping/wet-mopping of interior surfaces.

2. the importance of frequent washing of children's hands and toys.

BILLING CODE 4210-33-M

BUILDING INTERIORS - DUST

Glossary

Abatement—any set of measures designed to permanently correct and eliminate lead-based paint hazards. Abatement includes the removal of lead-based paint and lead-contaminated dust, the permanent containment or encapsulation of lead-based paint, the replacement of lead-painted surfaces or fixtures, and the removal or covering of lead contaminated soil. Abatement also includes all preparation, clean-up, worker protection, disposal, and post-abatement clearance testing activities associated with such measures.

Accessible Surface—an interior or exterior surface that is accessible for a young child to mouth or chew.

Common Areas—a room or area that is accessible to all tenants in a building or development (e.g., hallway, vestibule).

Comprehensive Testing—the systematic inspection of a housing development for the presence of lead-based paint using x-ray fluorescence (XRF) equipment to screen building components and laboratory analysis of paint samples where XRF readings are inconclusive.

Defective Paint Surface—paint which is cracking, flaking, chipping or peeling from a building component (e.g., window sill, door or door frame, etc.).

Family Development—a development assisted under the U.S. Housing Act of 1937 (other than section 8 or 17 of the Act) which is not an elderly project. For this purpose, an elderly project is one which was designated for occupancy by the elderly at its inception (and has retained that character) or, although not so designated, for which the PHA gives preference in tenant selection (with Department of Housing and Urban Development approval for all units in the development to elderly families. A building within a mixed-use development which meets these

qualifications shall, for purposes of this document, be excluded from any family development.

High Efficiency Particle Air (HEPA) Filter—a filter capable of filtering out particles of 0.3 microns or greater from a body of air at 99.97% efficiency or greater.

In-Place Management—a process in which a housing authority will take to reduce excessive exposures to lead and protect occupants from lead poisoning in units pending abatement.

Inspection—determines the condition of paint on a surface and the condition of the painted surface.

Lead-Based Paint Hazard—paint or other surface coatings that contain lead in excess of limits established by the Department of Housing and Urban Development.

Lead in Dust—interior house surface dust that contains an area mass concentration of lead which may pose a threat of adverse health effects in pregnant women or young children.

Lead in Soil—accessible soil on residential real property that contains lead in excess of the level determined to be safe by the appropriate Federal agency.

Multi-Unit Structures—residential buildings/dwelling units within a development which have a similar style of construction and similar paint history. Factors that contribute to similar paint history are common ownership from time of construction; similar occupancy patterns since construction; similar configuration and construction materials; and are conterminous (having a common boundary).

Random Testing—a surface-by-surface investigation of intact and non-intact interior and exterior painted surfaces in selected housing units for lead-based paint using an approved x-ray fluorescence analyzer or comparable approved sampling or testing technique.

Risk Assessment—an on-site investigation, including sampling in housing constructed prior to 1978, to determine the existence and extent of lead-based paint hazards and physical conditions that could potentially affect the integrity of painted surfaces.

Scattered Site Housing—residential buildings/dwelling units which have different styles of construction and unknown and unmanaged paint histories. Factors that contribute to unknown and unmanaged paint histories are multiple ownerships from time of construction; multiple occupancy patterns since construction; different configurations and construction materials; and are not conterminous (having no common boundary).

Visual Inspection—a surface-by-surface investigation of intact and non-intact interior and exterior painted surfaces.

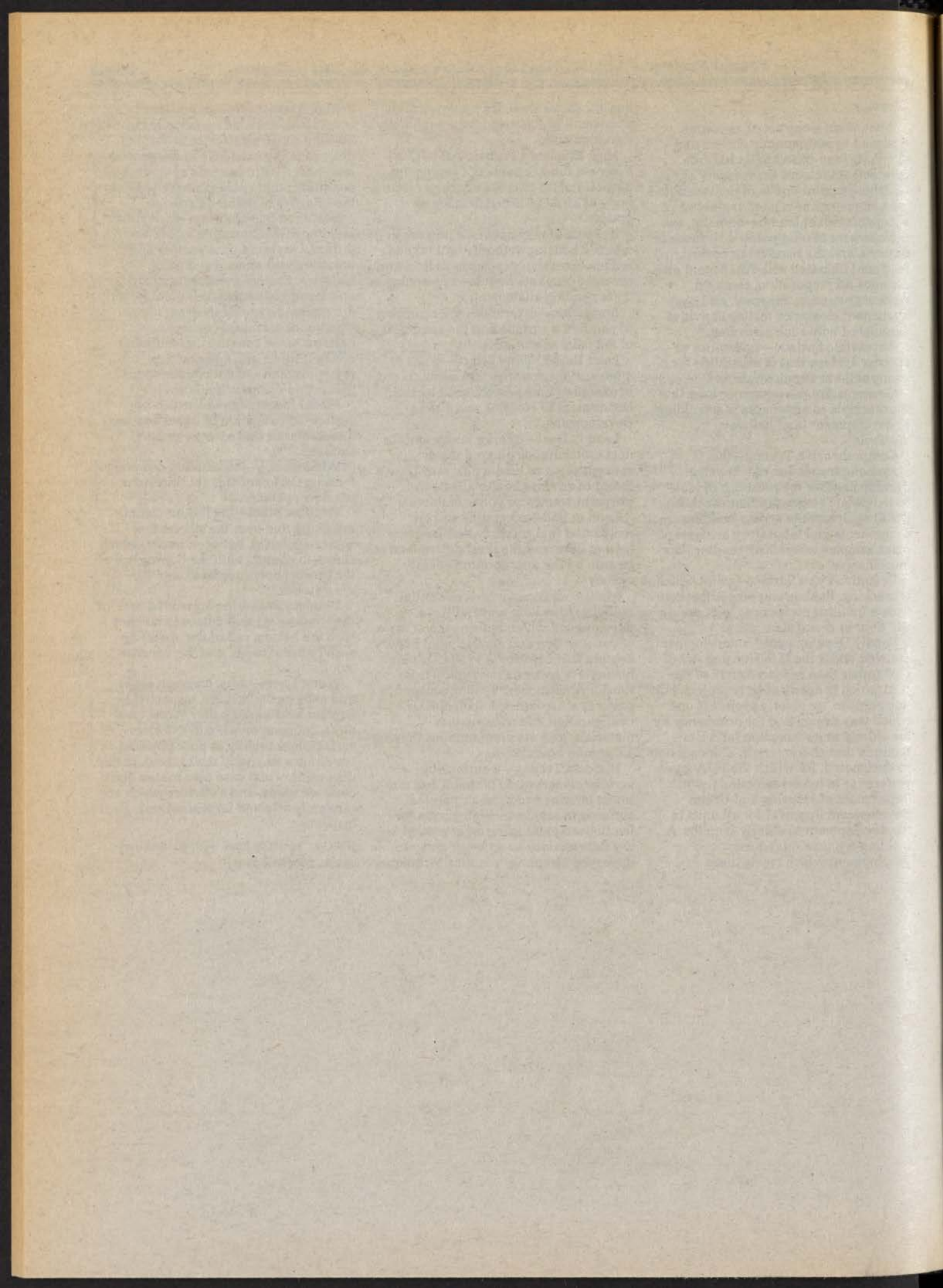
Window Sill—the building component forming the lower side (bottom) of a window opening.

Window Stool—the flat horizontal molding fitted over the sill, on the window interior, between jambs, which comes in contact with the bottom rail of the (lower) operating sash, and the window sill.

Window Well—the horizontal area of the window sill that comes in contact with the bottom rail of the operating sash (when closed), and the window stool.

Worst Case—units, common areas, and exteriors which are suspected to contain lead-based paint. Worst case units, common areas, and exteriors surfaces are usually in poor physical condition and poorly maintained. In this document, worst case also means units, common areas, and exteriors which are randomly selected for testing and inspection.

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federal register

**Monday
June 29, 1992**

Part III

Department of Transportation

Federal Aviation Administration

14 CFR Part 25

**Vibration, Buffet and Aeroelastic Stability
Requirements for Transport Category
Airplanes; Final Rule**

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. 26007; Amdt. No. 25-77]

RIN: 2120-AD36

Vibration, Buffet and Aeroelastic Stability Requirements for Transport Category Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment revises the airworthiness standards of the Federal Aviation Regulations (FAR) for type certification of transport category airplanes concerning vibration, buffet, flutter and divergence. It clarifies the requirement to consider flutter and divergence when treating certain damage and failure conditions required by other sections of the FAR and adjusts the safety margins related to aeroelastic stability to make them more appropriate for the conditions to which they apply. These changes are made to provide consistency with other sections of the FAR and to take into account advances in technology and the evolution of the design of transport airplanes.

EFFECTIVE DATE: July 29, 1992.

FOR FURTHER INFORMATION CONTACT: James Haynes, Airframe and Propulsion Branch (ANM-112), Transport Airplane Directorate, Aircraft Certification Service, FAA, 1601 Lind Avenue SW., Renton, Washington 98055-4056, telephone (206) 227-2131.

SUPPLEMENTARY INFORMATION:

Background

The term "aeroelastic" is applied to an important class of phenomena which involves the mutual interaction between the inertial, aerodynamic, and elastic forces in a structure. These forces can interact to give rise to a variety of aeroelastic phenomena ranging from transient or dynamic responses as a result of external forces (vibration or buffeting) to aeroelastic instabilities (flutter or divergence). The importance distinction between response and instability phenomena is that instabilities are self-excited, that is, they can exist even in smooth air in the absence of any external forces. A slight perturbation of the structure at or above the critical airspeed is all that is needed to initiate the unstable condition which then may be maintained or grow to destructive proportions in the absence of any external forces.

Few aeroelastic phenomena fit neatly into classifications where exact definitions can be considered to apply without qualification. The following definitions should be considered to apply to classical aeroelastic phenomena and used with a certain amount of judgment since not even the experts in the field would agree completely on any set of definitions.

1. *Vibration.* An oscillation of the structure or of a control surface resulting from an independent external excitation.

2. *Buffeting.* A random oscillation of the structure resulting from unsteady aerodynamic forces, usually associated with separated airflow.

3. *Flutter.* The unstable self-excited structural oscillation at a definite frequency where energy is extracted from the airstream by the motion of the structure. The deformation and motion of the structure result in forces on the structure that tend to maintain or augment the motion. The displacement modes associated with flutter instabilities are sometimes called "flutter modes."

4. *Whirl Flutter.* Flutter in which the aerodynamic and gyroscopic forces associated with rotations and displacements in the plane of a propeller or large turbofan play an important role. The displacement modes associated with whirl flutter are sometimes called "whirl modes."

5. *Divergence.* A static instability at a speed where the aerodynamic forces resulting from the deformation of the structure exceed the elastic restoring forces resulting from the same deformation.

6. *Control Reversal.* A condition generally occurring at higher speeds in which the intended effects of displacing a given component of the control system are completely overcome by the aeroelastic effects of structural deformation, resulting in reversed command.

7. *Deformation Instability.* The loss of airplane stability and control as a result of the aeroelastic effects of structural deformation.

Many of the above terms have been used in the airworthiness regulations and associated advisory material for many years and there is no intent to redefine these phenomena or require consideration of new phenomena by this amendment.

This amendment is based on Notice of Proposed Rulemaking (NPRM) No. 89-24 which was published in the Federal Register on September 12, 1989, (54 FR 37768). The notice proposed to revise and update the requirements concerning vibration, buffet, and aeroelastic

stability to make these requirements more consistent with modern transport airplane designs. It was proposed to augment the list of failures, malfunctions and adverse conditions by including additional damage and failure conditions that have been added to other sections of the FAR. In addition, the FAA proposed in the NPRM to revise the safety margins for aeroelastic stability to make them more appropriate for the conditions to which they applied and more consistent with advances in technology of transport airplane design. Additional proposals were to reorganize certain requirements so that structural load requirements, flight requirements, and aeroelastic stability requirements would be set forth in the proper sections and subparts of part 25.

In the 1940's, when the first transport airplane flutter and divergence requirements were introduced, a safety margin was established by requiring that the airplane be designed to be free from flutter and divergence at an airspeed 20 percent greater than the maximum design dive speed. Flutter analyses, using the available theoretical methods of that time, were used to show compliance. The 20 percent margin was intended to account for the inaccuracy in the analytical prediction of the flutter speed, as established by those early methods, and to provide for production and service variations. The ability of the industry to substantiate freedom from flutter and other aeroelastic instability phenomena has been continually improving. Current analytical methods employ finite element solutions with advanced unsteady aerodynamic theories and can accommodate airplanes of complex configurations. In addition, model testing, ground vibration testing and flight flutter testing techniques have all undergone significant improvements. Complete airplane experimental modal analyses are now commonplace. Furthermore, the cost of these analytical methods and testing techniques has been kept reasonable by the advances in computer technology. Because of these improvements, the FAA proposed in Notice 89-24 to reduce the 20 percent margin to 15 percent.

Part 25 has been continually upgraded with failure and damage requirements in other sections. Among these requirements are the criteria for complete loss of all engines in § 25.671, the empennage bird strike criteria of § 25.631, and the discrete source damage criteria of § 25.571(e). These sections generally require "no catastrophic failure" or "safe flight and landing" or similar provisions in the event of

specified failure conditions. These regulations have been interpreted to require flutter substantiation if the failure or damage event could have a significant effect on the flutter modes. In Notice 89-24 the FAA proposed to amend § 25.629 to directly reference many of these requirements to make it clear that freedom from aeroelastic instability is required to be demonstrated for these additional failure and damage conditions.

The design margin for the fail-safe design conditions has been the margin between design cruise speed, V_c/M_c and design dive speed, V_D/M_D . This margin originally was 25 percent, but has since been reduced by the incorporation of an upset criterion to establish V_D/M_D (§ 25.335(b)). This criterion generally results in a margin of between 15 and 20 percent on modern conventional transport airplanes at altitudes where V_c is not limited by Mach number. One recent airplane design incorporating a speed protection system would have resulted in even lower margins had the FAA not issued a special condition requiring that this margin be at least 15 percent. In Notice 89-24 the FAA proposed that the fail-safe margin not be allowed to be lower than 15 percent for the fail-safe design conditions. However, further adjustments in the margin were proposed for altitudes where design speeds are limited by Mach number.

Discussion of Comments

Comments were received from foreign and domestic airplane manufacturers, foreign airworthiness authorities, airplane operator and manufacturer trade groups, pilots associations and private individuals. The majority of commenters express support for the proposals, especially in regard to the attempt to modernize the requirements and adjust the safety margins so that they are more appropriate for modern transport airplane designs and take into consideration modern technology. As a result of the comments, several changes were made to the proposals to improve their organization and clarity.

One commenter suggests that the references to § 25.1309 and the use of the phrase "extremely improbable" in the proposed rule be accompanied with a numerical probability value. The phrase "extremely improbable" was contained in the previous rule and was not a new proposal in the NPRM. Acceptable methods of compliance are described in FAA Advisory Circular 1309-1A, System Design and Analysis. However, the FAA appreciates the commenter's desire for specific compliance criteria and is currently

assessing the need for additional advisory material to treat failure analyses as they relate to flutter. If additional guidance is found necessary, it will be included in the appropriate advisory circular.

The same commenter suggests that the requirement concerning oscillatory failures in the proposed § 25.305(f) was more restrictive than the current requirement. The commenter believes that the requirement for the resulting loads to be considered as limit load conditions is an increase in the current requirements and not consistent with conditions related to failures which should be treated as ultimate conditions.

The FAA disagrees. Limit loads (the maximum loads to be expected in service) are required to be sustained without permanent deformation of the structure. Ultimate loads are loads that are required to be sustained without failure, although permanent deformation is allowed. Section 25.301(a) states that all loads prescribed in the FAR are limit loads unless otherwise specified. Only loads from certain failure conditions, as specified by the regulations, are allowed to be treated as ultimate load conditions. These are generally load conditions that are independent of the failure event and not likely to be achieved during the time the failure exists. However, the oscillatory load condition concerns loads that result directly from the failure itself and involve a repetition of these loads at a rapid frequency. These loads have historically been treated as limit loads, and this amendment merely clarifies the requirement that this failure condition is to be treated as a limit load condition.

Several commenters object to the provisions relating to damage tolerance contained in paragraphs § 25.629(d)(2) (i) and (ii) of the NPRM, which were intended to provide a means of establishing the necessity for considering single failures of engine structures, engine mounts, and supports for external bodies, propellers or rotating machinery. The commenters believe that it is inappropriate to establish damage tolerance criteria in § 25.629 that are different and could be more restrictive than § 25.571 which specifically covers damage tolerance evaluation. The FAA agrees, and the paragraphs have been revised to provide relief from the single failure requirement for these structures if an analysis under § 25.571(b) and 25.571(e) indicate that consideration of a single failure is unnecessary for meeting those requirements. For the purposes of organizational clarity, this revised requirement is consolidated with

§ 25.629(d)(3)(ix) of the proposal, which also referred to § 25.571, and set forth in § 25.629(d)(8) of this amendment. Further consolidation of the proposed §§ 25.629(d)(3)(viii) and 25.629(d)(3)(ix) resulted in § 25.629(d)(9) of this amendment.

Several commenters suggest that a specific minimum damping value be provided in the rule to define a proper margin of damping for aeroelastic modes; however, no suggestions for specific criteria were provided. The current Advisory Circular (AC) 25.629-1, Flutter Substantiation of Transport Airplanes, provides guidance relative to establishing a proper margin of damping which depends on the analytical methodology and on the general character of the aeroelastic mode. It is not practicable to establish a regulatory requirement for a specific damping margin that would be appropriate in all cases.

The majority of commenters express support for the change in the flutter substantiation speed margin from $1.2 V_D$ to $1.15 V_D$. However, several commenters are concerned that the modern analytical methods, which they believed to be the basis for making this reduction, are not mandated by regulation nor necessarily practiced by all manufacturers. As discussed previously, the reduction was not proposed as a result of improvements in analytical methodology alone; but is also attributable to improved testing methods and improvements in other related requirements. Furthermore, an analytical speed margin alone does not in itself provide a guarantee of freedom from flutter regardless of its actual value. This is because many modes can become critical well within the flight envelope by only small changes in other parameters. An extensive parametric investigation to establish sensitivities and to develop a proper margin with respect to all important parameters (altitude, air forces, rigidity, mass balance, etc.) is an essential part of any aeroelastic investigation. This is a required certification practice for transport airplanes with respect to flutter substantiation as explained in AC 25.629-1.

Furthermore, the analytical speed margins required by the previous regulation were inconsistent with the accuracy associated with predicting flutter for the various conditions. For modern transport category airplanes, the 20 percent margin was required for the nominal (unfailed) airplane at the lower altitudes and these are the most reliable conditions to analyze. However, the analytical speed margins for the

nominal airplane at altitudes where operating speed is limited by Mach number, and for failure cases at any altitude, were permitted to be much less than 20 percent even though aeroelastic instabilities for these conditions are less reliably predicted. This amendment establishes a more consistent speed margin for all conditions including failure cases.

Another commenter suggests that the change in the speed margin should not be allowed as long as the FAA accepts the traditional "strip theory" method of flutter analysis and does not mandate the more recently developed "doublet-lattice" method which the commenter asserts to be more reliable. Since all analytical methods have deficiencies with respect to certain configurations, the FAA prefers not to mandate specific theoretical methods by regulation. In many cases, more than one analytical method may be necessary in order to overcome deficiencies that a particular method might have with specific configurations. It is necessary that any analytical methodology used for flutter substantiation be validated for the specific application and be shown to reliably predict the aeroelastic characteristics of the airplane. This validation is normally based on correlation with actual test data such as wind tunnel data, ground vibration test data, and flight test results. Guidance pertaining to validation of analytical methodology is contained in AC 25.629-1.

One commenter states that the requirement to consider mismanagement of fuel conditions is considerably beyond the normal design practices. The FAA disagrees since consideration of fuel mismanagement conditions has been a standard practice for many years, and, in fact, although not explicitly listed, has been considered necessary in showing compliance with § 25.629. The new rule makes this condition explicit by adding it to the list of failure and adverse conditions so that it cannot be overlooked.

Another commenter suggests that the requirement for the treatment of whirl flutter should include a specific requirement to consider the influence of a non-uniform airstream on propellers installed in a pusher configuration. The general objective language, as proposed, is sufficient for requiring these

considerations. These analytical details will be considered for inclusion in the appropriate advisory circular.

The same commenter also points out that, in addition to pitch and yaw rigidity, the translational rigidity of propeller axes can also be important for certain configurations. The FAA agrees and paragraph (d)(5) has been revised to delete the words "pitch and yaw" so that it addresses "rigidity" in general.

One commenter suggests that the consideration of single failures in flutter damper systems should not be required if they can be shown to be extremely improbable. The FAA disagrees; this single failure requirement already existed in the previous regulation and was intended to provide a single failure requirement for passive flutter dampers, equivalent to that already provided in § 25.671(c)(1) for flight control systems. Although flutter dampers are typically mechanical components, similar in design and criticality to mechanical control system components, they may not necessarily be considered part of the flight control system. Therefore, it is necessary to provide a separate single failure requirement for them in § 25.629(d).

One additional change was to delete a statement in the proposal that provided for substantiation of the failure and damage events by showing that losses in rigidity or changes in frequency, mode shape, or damping are within the parameter investigations shown to be satisfactory in the flutter and divergence investigations. While there is no intent to eliminate this approach as an acceptable means of compliance, the FAA considers it unnecessary to prescribe it in the regulations. This method of compliance is specifically provided for in AC 25.629-1.

Regulatory Evaluation

This section summarizes the full regulatory evaluation prepared by the FAA that provides more detailed estimates of the economic consequences of this regulatory action. This summary and the full evaluation quantify, to the extent practicable, estimated costs to the private sector, consumers, Federal, State and local governments, as well as anticipated benefits.

Executive Order 12291, dated February 17, 1981, directs Federal agencies to promulgate new regulations or modify existing regulations only if

potential benefits to society for each regulatory change outweigh potential costs. The order also requires the preparation of a Regulatory Impact Analysis of all "major" rules except those responding to emergency situations or other narrowly defined exigencies. A "major" rule is one that is likely to result in an annual increase in consumer costs, a significant adverse effect on the economy of \$100 million or more, a major increase in consumer costs, a significant adverse effect on competition, or is highly controversial.

The FAA has determined that this rule is not "major" as defined in the executive order, therefore a full regulatory analysis, that includes the identification and evaluation of cost reducing alternatives to this rule, has not been prepared. Instead, the agency has prepared a more concise document termed a regulatory evaluation that analyzes only this rule without identifying alternatives. In addition to a summary of the regulatory evaluation, this section also contains a regulatory flexibility determination required by the Regulatory Flexibility Act of 1980 (Pub. L. 96-354) and an international trade impact assessment. If more detailed economic information is desired than is contained in this summary, the reader is referred to the full regulatory evaluation in the docket.

Economic Evaluation

This rule applies to manufacturers of airplanes built to part 25 standards. It will have no impact, positive or negative, on the level of safety associated with the operation of transport category airplanes. It will provide a limited, but undetermined, amount of cost savings to manufacturers by reducing the design margin for airspeed. Another benefit of the rule is that it will update, reorganize and clarify the intent of various sections within part 25 concerning vibration, buffet, flutter and divergence. Since no increase in cost is associated with this rule, and since there are benefits of the rule associated with cost reduction to transport airplane manufacturers, and improved organization, consistency, and clarity within part 25, this rule is cost-effective.

The following table summarizes each of the changes and briefly assesses their economic impact.

Changes	Economic impact
Creates § 25.305(e). Incorporates the design requirements of § 25.251(a) into § 25.305. Clarifies that freedom from vibration need not be demonstrated under failure conditions.	Clarifies intent of rule and improves organization of regulations. No economic impact.

Changes	Economic impact
Reorganizes contents of § 25.629 regarding the evaluation of loads into a new (and more pertinent) § 25.305(f).	Clarifies intent of the rule. No economic impact.
Changes the title of § 25.629.	Editorial change. No economic impact.
Differences between propellers or similar rotating devices that contribute "significant dynamic forces," and those that do not.	Clarifies intent of the rule. No economic impact.
Reduces the design margin for airspeed from 20 percent to 15 percent to reflect modern technology and aircraft.	Relieves manufacturers of need to meet unnecessary design capabilities. Provides a reduction of costs.
Provides a minimum speed margin or floor for aeroelastic stability analysis.	Provides a fixed minimum safety margin equivalent to the minimum applied to conventional designs in order to facilitate the use of new technology equipment such as speed protection systems. Cost saving can result from the use of the new technology equipment. Otherwise, no economic impact.
Adds mismanagement of fuel and bird strike incidence to the failure, malfunction, damage and adverse conditions of § 25.626(d).	Consolidates existing requirements. No economic impact.
Requires aeroelastic analysis of any combination of feathered propellers.	Resolves inconsistencies in regulations. No economic impact.
Permits the use of damage tolerance requirements of § 25.571(b) for evaluating structures, thus eliminating current confusion.	Clarifies the meaning of the regulation. No economic impact.
Requires full scale flight flutter tests for new designs.	Clarifies the means of demonstrating compliance with existing requirements.

International Trade Impact Assessment

This rule will have little or no impact on the trade opportunities for both U.S. firms doing business in foreign countries and foreign firms doing business in the United States. If foreign nations do not adopt U.S. standards, their manufacturers may be at a disadvantage in the U.S. market. However, the impact is expected to be slight. If foreign manufacturers do adopt U.S. standards, U.S. manufacturers selling abroad could continue to design to foreign standards which would also meet U.S. standards.

Regulatory Flexibility Determination

Under the criteria of the Regulatory Flexibility Act of 1980 and FAA Order 2100.14A, (*Regulatory Flexibility Criteria and Guidance*), the FAA has determined that the rule will not have a significant economic impact on a substantial number of small entities. Only U.S. manufacturers of transport category airplanes will be affected, and none of the transport category airplane manufacturers in the United States meets the criteria of a small entity.

Federalism Implications

The regulations adopted herein do not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that such a regulation does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Conclusion

Because the requirement to consider flutter and divergence when testing certain damage and failure conditions required by the FAR is not expected to result in a substantial cost, the FAA has determined that this final rule is not

major as defined in Executive Order 12291. This final rule is considered to be significant as defined in Department of Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). In addition, since there are no small entities affected by this rulemaking, it is certified, under the criteria of the Regulatory Flexibility Act, that this final rule, at promulgation, will not have a significant economic impact, positive or negative, on a substantial number of small entities. A copy of the final regulatory evaluation prepared for this project may be examined in the public docket or obtained from the person identified under the caption "For Further Information Contact."

List of Subjects in 14 CFR Part 25

Air transportation, Aircraft, Aviation safety, Safety.

The Amendment

Accordingly, 14 CFR part 25 of the Federal Aviation Regulations (FAR) is amended as follows:

PART 25—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES

1. The authority citation for part 25 continues to read as follows:

Authority: 49 U.S.C. 1344, 1354(a), 1355, 1421, 1423, 1424, 1425, 1428, 1429, 1430, 49 U.S.C. 106(g) and 49 CFR 1.47(a).

2. By amending § 25.251 by revising paragraphs (a) and (b) to read as follows:

§ 25.251 Vibration and buffeting.

(a) The airplane must be demonstrated in flight to be free from any vibration and buffeting that would prevent continued safe flight in any likely operating condition.

(b) Each part of the airplane must be demonstrated in flight to be free from excessive vibration under any

appropriate speed and power conditions up to V_{DF}/M_{DF} . The maximum speeds shown must be used in establishing the operating limitations of the airplane in accordance with § 25.1505.

3. By amending § 25.305 by adding new paragraphs (e) and (f) to read as follows:

§ 25.305 Strength and deformation.

(e) The airplane must be designed to withstand any vibration and buffeting that might occur in any likely operating condition up to V_D/M_D , including stall and probable inadvertent excursions beyond the boundaries of the buffet onset envelope. This must be shown by analysis, flight tests, or other tests found necessary by the Administrator.

(f) Unless shown to be extremely improbable, the airplane must be designed to withstand any forced structural vibration resulting from any failure, malfunction or adverse condition in the flight control system. These must be considered limit loads and must be investigated at airspeeds up to V_C/M_C .

4. By revising § 25.629 to read as follows:

§ 25.629 Aeroelastic stability requirements.

(a) *General.* The aeroelastic stability evaluations required under this section include flutter, divergence, control reversal and any undue loss of stability and control as a result of structural deformation. The aeroelastic evaluation must include whirl modes associated with any propeller or rotating device that contributes significant dynamic forces. Compliance with this section must be shown by analyses, wind tunnel tests, ground vibration tests, flight tests, or other means found necessary by the Administrator.

(b) *Aeroelastic stability envelopes.* The airplane must be designed to be free

from aeroelastic instability for all configurations and design conditions within the aeroelastic stability envelopes as follows:

(1) For normal conditions without failures, malfunctions, or adverse conditions, all combinations of altitudes and speeds encompassed by the V_D/M_D versus altitude envelope enlarged at all points by an increase of 15 percent in equivalent airspeed at both constant Mach number and constant altitude. In addition, a proper margin of stability must exist at all speeds up to V_D/M_D and, there must be no large and rapid reduction in stability as V_D/M_D is approached. The enlarged envelope may be limited to Mach 1.0 when M_D is less than 1.0 at all design altitudes, and

(2) For the conditions described in § 25.629(d) below, for all approved altitudes, any airspeed up to the greater airspeed defined by:

(i) The V_D/M_D envelope determined by § 25.335(b); or,

(ii) An altitude-airspeed envelope defined by a 15 percent increase in equivalent airspeed above V_C at constant altitude, from sea level to the altitude of the intersection of 1.15 V_C with the extension of the constant cruise Mach number line, M_C , then a linear variation in equivalent airspeed to $M_C + .05$ at the altitude of the lowest V_C/M_C intersection; then, at higher altitudes, up to the maximum flight altitude, the boundary defined by a .05 Mach increase in M_C at constant altitude.

(c) *Balance weights.* If concentrated balance weights are used, their effectiveness and strength, including supporting structure, must be substantiated.

(d) *Failures, malfunctions, and adverse conditions.* The failures, malfunctions, and adverse conditions

which must be considered in showing compliance with this section are:

(1) Any critical fuel loading conditions, not shown to be extremely improbable, which may result from mismanagement of fuel.

(2) Any single failure in any flutter damper system.

(3) For airplanes not approved for operation in icing conditions, the maximum likely ice accumulation expected as a result of an inadvertent encounter.

(4) Failure of any single element of the structure supporting any engine, independently mounted propeller shaft, large auxiliary power unit, or large externally mounted aerodynamic body (such as an external fuel tank).

(5) For airplanes with engines that have propellers or large rotating devices capable of significant dynamic forces, any single failure of the engine structure that would reduce the rigidity of the rotational axis.

(6) The absence of aerodynamic or gyroscopic forces resulting from the most adverse combination of feathered propellers or other rotating devices capable of significant dynamic forces. In addition, the effect of a single feathered propeller or rotating device must be coupled with the failures of paragraphs (d)(4) and (d)(5) of this section.

(7) Any single propeller or rotating device capable of significant dynamic forces rotating at the highest likely overspeed.

(8) Any damage or failure condition, required or selected for investigation by § 25.571. The single structural failures described in paragraphs (d)(4) and (d)(5) of this section need not be considered in showing compliance with this section if:

(i) The structural element could not fail due to discrete source damage

resulting from the conditions described in § 25.571(e), and

(ii) A damage tolerance investigation in accordance with § 25.571(b) shows that the maximum extent of damage assumed for the purpose of residual strength evaluation does not involve complete failure of the structural element.

(9) Any damage, failure, or malfunction considered under §§ 25.631, 25.671, 25.672, and 25.1309.

(10) Any other combination of failures, malfunctions, or adverse conditions not shown to be extremely improbable.

(e) *Flight flutter testing.* Full scale flight flutter tests at speeds up to V_{DF}/M_{DF} must be conducted for new type designs and for modifications to a type design unless the modifications have been shown to have an insignificant effect on the aeroelastic stability. These tests must demonstrate that the airplane has a proper margin of damping at all speeds up to V_{DF}/M_{DF} , and that there is no large and rapid reduction in damping as V_{DF}/M_{DF} is approached. If a failure, malfunction, or adverse condition is simulated during flight test in showing compliance with paragraph (d) of this section, the maximum speed investigated need not exceed V_{FC}/M_{FC} if it is shown, by correlation of the flight test data with other test data or analyses, that the airplane is free from any aeroelastic instability at all speeds within the altitude-airspeed envelope described in paragraph (b)(2) of this section.

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Barry Lambert Harris,

Acting Administrator.

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